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MAY 1984

EXPERIMENTAL INVESTIGATION OF SHOCK-CELL NOISE REDUCTION FOR SINGLE-STREAM NOZZLES IN SIMULATED FLIGHT

Contract NAS3-22514

Comprehensive Data Report

VOLUME II

Laser Velocimeter Data

by

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GENERAL ELECTRIC

For

National Aeronautics and Space Administration
Lewis Research Center
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16. Abstract

This Comprehensive Data Report, composing three volumes, includes the basic test description and test results which are analyzed and documented in the companion Final Report. Volume I contains a description of the model nozzle configurations, acoustic test conditions, and detailed test results from the hot static and simulated flight acoustic tests at the General Electric Anechoic Chamber. Volume II presents the diagnostic laser velocimeter test results. Volume III contains the diagnostic flow visualization test results obtained by shadowgraph along with a description of test facilities and data acquisition and reduction techniques. Design drawings of scale model nozzles are also included in Volume III.

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VOLUME II

LASER VELOCIMETER DATA

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5.0 LASER VELOCIMETER TESTS

Mean velocity (axial component) and turbulent velocity (axial component) measurements for thirty-one (31) selected flow conditions of six models were performed employing the laser Doppler velocimeter. Aerodynamic conditions which define the test points are given in Subsection 5.1. Tabulations which explain the scope of mean velocity traverses and turbulence histogram measurements are also presented in Subsection 5.1. Subsection 5.2 contains tabulated data that describes the actual LV position, the type of traverse, and measured mean and turbulent velocities along with copies of the LV mean velocity traces.

5.1 TEST MATRIX AND AERODYNAMIC CONDITIONS OF TEST POINTS

The aerodynamic test conditions of the thirty-one (31) test points are presented in Tables 5-1 through 5-6. The LV test points presented in these tables correspond to the acoustic test points presented in Sections 3.2 through 3.7 of Volume I.

Each model includes the C-D design point (or corresponding test point), both at static and flight-simulated conditions. Additionally, some over-expanded or under-expanded cases were also tested. Most of the LV tests reported herein were conducted at an elevated temperature of $T_T \simeq 960° K$ (1730° R). A limited number of lower temperature tests [$T_T \simeq 470° K$ (850° R)] were also performed, mainly to identify the temperature dependency of the LV resolution capability.

Tables 5-7 through 5-37 summarize the scope of the LV tests. The scope of each of the thirty-one (31) test points consists of at least one of the following:

1. Normal Axial Traverses -- Traverses starting at:
    - The exit plane and proceed along the centerline of the nozzle or along parallel lines to the centerline (circular nozzles).
    - The end of the center plug and along the centerline of the nozzle or along parallel lines to the centerline (plug nozzles).
2. Normal Radial Traverses -- Traverses vertical to the centerline of the nozzle in E-W direction (i.e., along the plane of nozzle axis and microphones).

3. Slant Axial Traverses -- Traverses start at the exit plane and proceed along the lines which are parallel to the plug surface (only for plug nozzles).

4. Slant Radial (Chordwise) Traverses* -- Traverses (only in close proximity of the plug surface) vertical to the nozzle axis in N-W direction.

5. Point Histograms -- Turbulence velocities (turbulence intensities) were measured at the specified locations during the above mentioned axial, radial and chordwise traverses.

5.2 LASER VELOCIMETER TEST DATA

The measured data for LV test points given in Tables 5-38 through 5-70 are presented as follows:

- Tabulated data in Tables 5-38 through 5-70.
  The tables summarize the type of traverse with its graph number, the histogram number and its location as defined by the position of the LV control volume, the measured mean and turbulence velocities.

- Copies of the mean velocity traces obtained on the Hewlett-Packard X-Y plotters. General remarks on the LV mean velocity traces are given in Subsection 5.2.2.

5.2.1 Tabulations of Laser Velocimeter Data

The parameters used in the tabulations of the LV data are defined below:

P_r	Pressure ratio
T_T	Total temperature, °R
V_j	Fully expanded jet exit velocity, ft/s
$V_{a/c}$	Free jet velocity, ft/s
Deq	Defined as the equivalent diameter based on total flow area, inches
h	Defined as the annulus height measured vertically to the plug surface between plug and inner wall of nozzle sleeve tip, inches

* These traverses were actually performed by using the normal traverse platform. However, locating the traverse starting points was made by utilizing the slant traverse platform (see Appendix IV).

Type of traverse	Either a radial, a chordwise or an axial traverse
Position	Position of linear voltage displacement transducer (LVDT), volts
Graph No.	Identification number of the mean velocity trace
Histogram No.	Histogram number
REF	Reference point for mean velocity traverse, volts
x, r, z	Coordinates which define circular nozzle or plug nozzle flowfield
x', r', z'	Coordinates which define plug nozzle flowfield (used relative to the slant traverse).

5.2.2 General Remarks on LV Mean Velocity Traces

Copies of the LV mean velocity traces are presented in the next subsections. The information provided on the mean velocity traces is explained on a set of sample traces provided in Figure 5-1. Additional general remarks on the mean velocity traces are given below:

- Two kinds of mean velocity traces are available for most of the test points, i.e., pen-traverse and mini-histogram. During the present LV tests, the mean velocity data measured with the mini-histograms were obtained with the acceptable data samples set to 20. This number of samples yields an estimated 5% error in the mean velocity measurements with a statistical 95% confidence level for a given turbulence intensity of 10%.

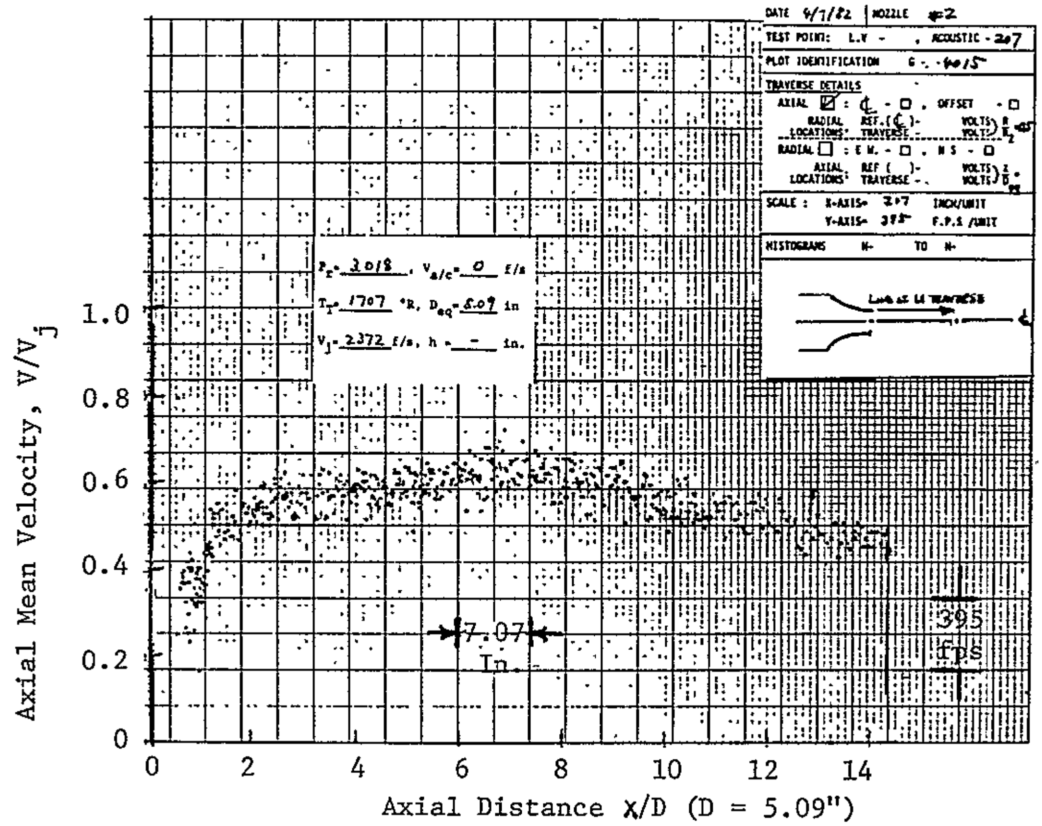
- "X-axis" scale shown in the traces is identical for both the pen-traverse and mini-histogram. There is, however, a slight difference of "Y-axis" scale between the two.

- Wherever both pen-traverse and mini-histogram are provided, the "Y-axis" scale shown in each trace is the one that was defined based on the mini-histogram velocity calibration chart. Therefore, for quantitative analysis purposes, only the mini-histogram traces should be used.

- On the other hand, wherever only the pen-traverse is given, the

"Y-axis" scale shown in the trace is the one that was defined based on the pen-traverse velocity calibration chart; and, naturally, it can be used for quantitative analysis.

- The axial mean velocity given in the traces is normalized by the isentropically expanded jet exit velocity, corresponding to the aerodynamic conditions of the given test point.
- The traverse distance is normalized by using either of the following parameters:
  - A) Equivalent diameter, D_{eq}
  - B) Annulus height, h
  - C) Hydraulic diameter, $D_{hyd} = \frac{4 \times (\text{Annular area})}{\text{Outer Perimeter}}$



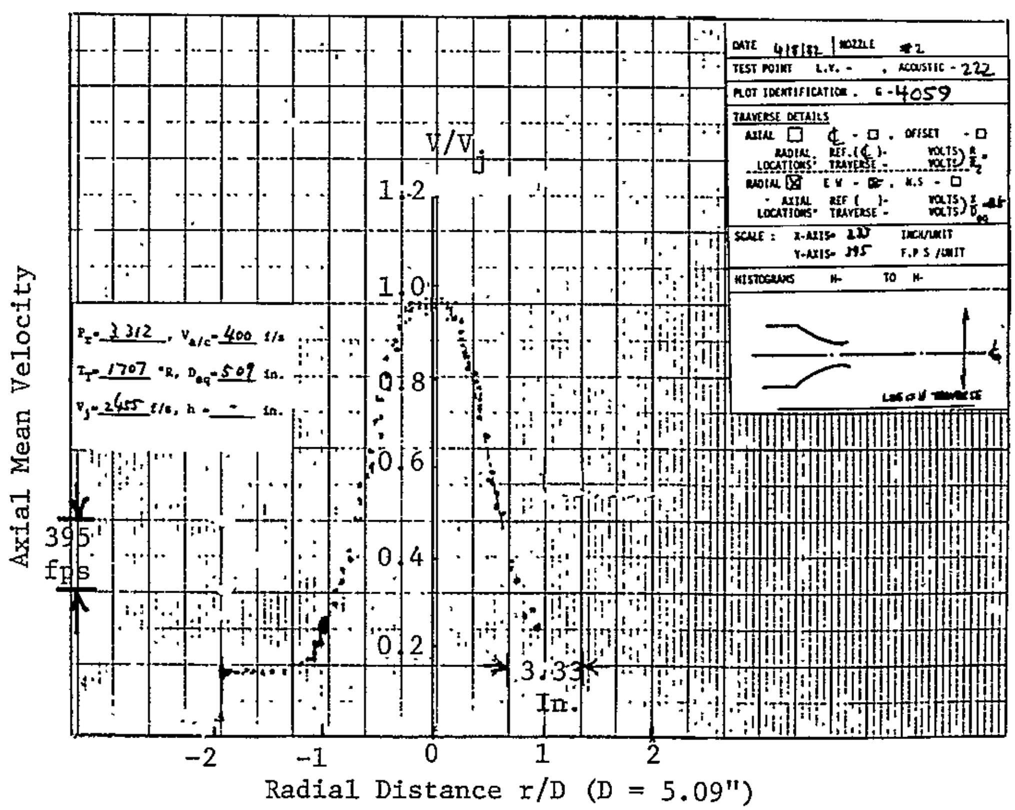


Figure 5- 1. Sample Traces Obtained During Axial and Radial Traverses.

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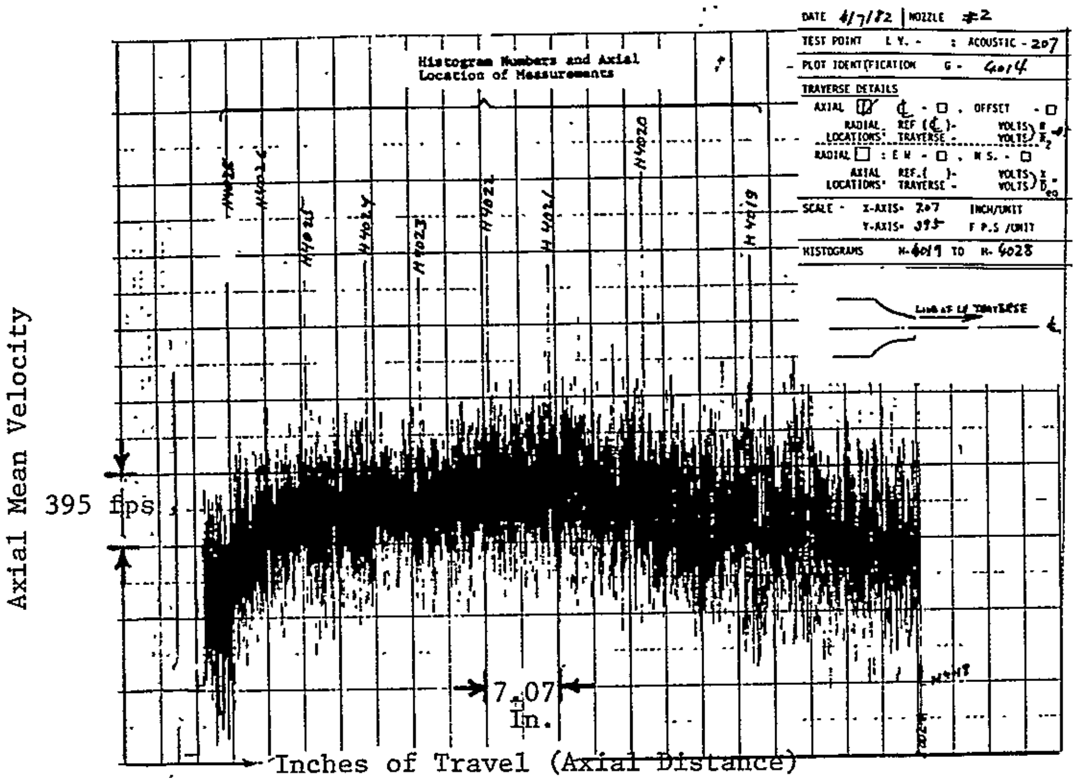

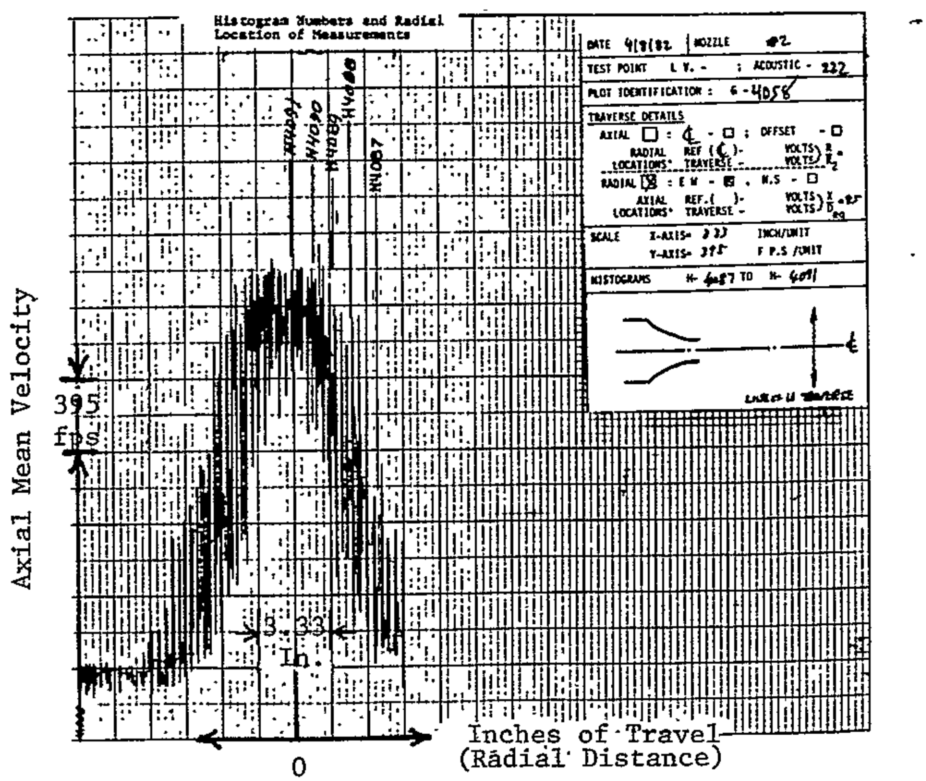

Figure 5- 1 (Cont'd). Sample Traces Obtained During Axial and Radial Traverses.

TABLE 5-1. AERODYNAMIC CONDITIONS OF LV TEST POINTS OF MODEL 1, CIRCULAR CONIC NOZZLE

TEST POINT	P_r	T_T ^oK (^oR)	T ^oK (^oR)	V_j m/s (ft/s)	$V_{a/c}$ m/s (ft/s)	REMARKS
113	3.128	946 (1703)	702 (1264)	732 (2402)	0	STATIC CONDITION, CORRESPONDS TO C-D DESIGN POINT
114	3.128	963 (1734)	716 (1288)	739 (2425)	122 (400)	FLIGHT SIMILATED, CORRESPONDS TO C-D DESIGN POINT
121	3.316	949 (1708)	693 (1247)	749 (2457)	0	STATIC CONDITION, UNDEREXPANDED FLOW
122	3.323	953 (1715)	696 (1252)	751 (2464)	122 (400)	FLIGHT SIMULATED, UNDEREXPANDED FLOW

P_r = PRESSURE RATIO

T_T = TOTAL TEMPERATURE

T = STATIC TEMPERATURE

V_j = FULLY EXPANDED JET EXIT VELOCITY

$V_{a/c}$ = FREE JET VELOCITY

TABLE 5-2. AERODYNAMIC CONDITIONS OF LV TEST POINTS OF MODEL 2
CIRCULAR CONVERGENT-DIVERGENT NOZZLE FOR DESIGN AT $M_j \approx 1.4$

TEST POINT	P_r	T_T	T	V_j	$V_{a/c}$	REMARKS
		^oK (^oR)	^oK (^oR)	m/s (ft/s)	m/s (ft/s)	
213	3.121	949 (1708)	704 (1268)	732 (2403)	0	STATIC CONDITION, C-D DESIGN POINT
214	3.121	953 (1716)	708 (1275)	734 (2409)	122 (400)	FLIGHT SIMULATED, C-D DESIGN POINT
221	3.309	943 (1697)	688 (1239)	746 (2447)	0	STATIC CONDITION, UNDEREXPANDED FLOW
222	3.312	948 (1707)	693 (1247)	748 (2455)	122 (400)	FLIGHT SIMULATED, UNDEREXPANDED FLOW
207	3.018	948 (1707)	711 (1280)	723 (2372)	0	STATIC CONDITION, OVEREXPANDED FLOW
211	3.074	949 (1709)	708 (1274)	728 (2390)	0	STATIC CONDITION, OVEREXPANDED FLOW

P_r = PRESSURE RATIO
T_T = TOTAL TEMPERATURE
T = STATIC TEMPERATURE
V_j = FULLY EXPANDED JET EXIT VELOCITY
$V_{a/c}$ = FREE JET VELOCITY

TABLE 5-3. AERODYNAMIC CONDITIONS OF LV TEST POINTS OF MODEL 3 CONTOURED CONVERGENT ANNULAR PLUG NOZZLE

TEST POINT	P_r	T_T °K (°R)	T °K (°R)	V_j m/s (ft/s)	$V_{a/c}$ m/s (ft/s)	REMARKS
313	3.146	971 (1747)	721 (1297)	743 (2439)	0	STATIC CONDITION, CORRESPONDS TO C-D DESIGN POINT
314	3.136	952 (1713)	706 (1271)	735 (2411)	122 (400)	FLIGHT SIMULATED, CORRESPONDS TO C-D DESIGN POINT
321	3.320	963 (1733)	703 (1266)	755 (2476)	0	STATIC CONDITION, UNDEREXPANDED FLOW
322	3.353	955 (1719)	696 (1252)	754 (2474)	122 (400)	FLIGHT SIMULATED, UNDEREXPANDED FLOW
309	3.061	955 (1719)	713 (1284)	730 (2394)	0	STATIC CONDITION, OVEREXPANDED FLOW
1313	3.239	487 (877)	348 (627)	528 (1734)	0	STATIC CONDITION, LOW TEMP. CORRESPONDS TO C-D DESIGN PT.

P_r = PRESSURE RATIO

T_T = TOTAL TEMPERATURE

T = STATIC TEMPERATURE

V_j = FULLY EXPANDED JET EXIT VELOCITY

$V_{a/c}$ = FREE JET VELOCITY

TABLE 5-4. AERODYNAMIC CONDITIONS OF LV TEST POINTS OF MODEL 4 CONVERGENT-DIVERGENT ANNULAR PLUG NOZZLE FOR DESIGN AT $M_j \simeq 1.4$

TEST POINT	P_r	T_T °K (°R)	T °K (°R)	V_j m/s (ft/s)	$V_{a/c}$ m/s (ft/s)	REMARKS
413	3.108	957 (1723)	712 (1282)	735 (2411)	0	STATIC CONDITION, C-D DESIGN POINT
414	3.122	966 (1739)	718 (1293)	739 (2426)	122 (400)	FLIGHT SIMULATED, C-D DESIGN POINT
421	3.299	966 (1738)	707 (1272)	754 (2474)	0	STATIC CONDITION, UNDEREXPANDED FLOW
422	3.329	963 (1733)	703 (1265)	756 (2479)	122 (400)	FLIGHT SIMULATED, UNDEREXPANDED FLOW
407	3.025	962 (1732)	722 (1299)	729 (2392)	0	STATIC CONDITION, OVEREXPANDED FLOW
411	3.069	962 (1732)	718 (1293)	733 (2405)	0	STATIC CONDITION, OVEREXPANDED FLOW
419	3.214	938 (1689)	691 (1243)	736 (2416)	0	STATIC CONDITION, UNDEREXPANDED FLOW

P_r = PRESSURE RATIO

T_T = TOTAL TEMPERATURE

T = STATIC TEMPERATURE

V_j = FULLY EXPANDED JET EXIT VELOCITY

$V_{a/c}$ = FREE JET VELOCITY

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TABLE 5-5. AERODYNAMIC CONDITIONS OF LV TEST POINTS OF MODEL 5 20 ELEMENT ANNULAR CONVERGENT SUPPRESSOR NOZZLE

TEST POINT	P_r	T_T	T	V_j	$V_{a/c}$	REMARKS
		^oK (^oR)	^oK (^oR)	m/s (ft/s)	m/s (ft/s)	
513	3.123	962 (1732)	715 (1287)	738 (2421)	0	STATIC CONDITION, CORRESPONDS TO C-D DESIGN POINT
514	3.128	957 (1722)	711 (1279)	736 (2415)	122 (400)	FLIGHT SIMULATED, CORRESPONDS TO C-D DESIGN POINT
1513	3.209	472 (850)	338 (609)	518 (1701)	0	STATIC CONDITION, LOW TEMP. CORRESPONDS TO C-D DESIGN PT.
1514	3.214	472 (850)	338 (609)	519 (1702)	122 (400)	FLIGHT SIMULATED, LOW TEMP. CORRESPONDS TO C-D DESIGN PT.

P_r = PRESSURE RATIO

T_T = TOTAL TEMPERATURE

T = STATIC TEMPERATURE

V_j = FULLY EXPANDED JET EXIT VELOCITY

$V_{a/c}$ = FREE JET VELOCITY

TABLE 5-6. AERODYNAMIC CONDITIONS OF LV TEST POINTS OF MODEL 6 20 ELEMENT ANNULAR CONVERGENT-DIVERGENT SUPPRESSOR NOZZLE FOR DESIGN AT $M_j \approx 1.4$.

TEST POINT	P_r	T_T ^oK (^oR)	T ^oK (^oR)	V_j m/s (ft/s)	$V_{a/c}$ m/s (ft/s)	REMARKS
613	3.128	960 (1728)	713 (1283)	738 (2420)	0	STATIC CONDITION, C-D DESIGN POINT
614	3.125	961 (1729)	713 (1284)	737 (2419)	122 (400)	FLIGHT SIMULATED, C-D DESIGN POINT
1613	3.216	473 (852)	339 (610)	519 (1704)	0	STATIC CONDITION, LOW TEMP. C-D DESIGN POINT
1614	3.215	474 (853)	339 (611)	520 (1706)	122 (400)	FLIGHT SIMULATED, LOW TEMP. C-D DESIGN POINT

P_r = PRESSURE RATIO

T_T = TOTAL TEMPERATURE

T = STATIC TEMPERATURE

V_j = FULLY EXPANDED JET EXIT VELOCITY

$V_{a/c}$ = FREE JET VELOCITY

TABLE 5-7. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 1 Circular Conic Nozzle

TEST POINT 113

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	400 - 403	-	-
		= 0.5	404 - 405	25	926 - 950
		=			
		=			
	RADIAL	x/D = 0.08	406 - 407	-	-
		= 1.07	408 - 409	-	-
		= 4.30	410 - 411	-	-
		= 8.60	412 - 413	5	952 - 957
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

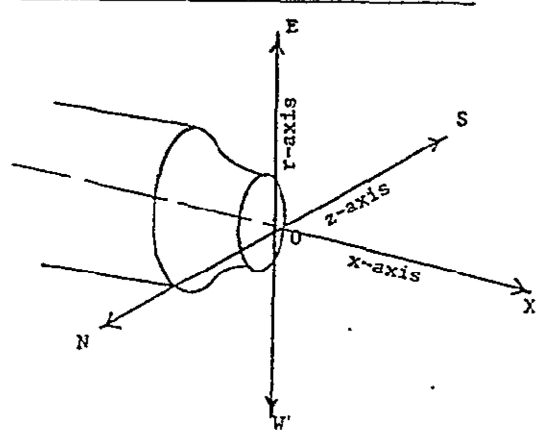

TABLE 5-8. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 1 Circular Conic Nozzle

TEST POINT 114

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	442 - 443	-	-
		= 0.5	444 - 445	20	1038 - 1057
		= 0	456 - 457	-	-
		=			
	RADIAL	x/D = 0	446 - 447	-	-
		= 3	448 - 449	3	1059 - 1061
		= 3.6	450 - 451	2	1062 - 1063
		= 4.3	452 - 453	-	-
		= 8.6	454 - 455	3	1066 - 1068
		=			
		=			
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		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

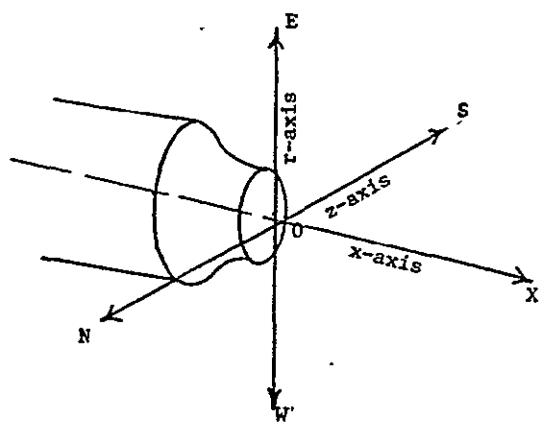

TABLE 5-9. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 1 Circular Conic Nozzle

TEST POINT 121

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	416 - 417	–	-
		= 0.5	424 - 425	–	-
		= 0.5	428 - 429	26	976 - 1001
		= 0.48		8	968 - 975
	RADIAL	x/D = 0.1	418 - 419	–	–
		= 1.1	420 - 421	–	–
		= 4.2	422 - 423	–	–
		= 8.5	426 - 427	10	958 - 967
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

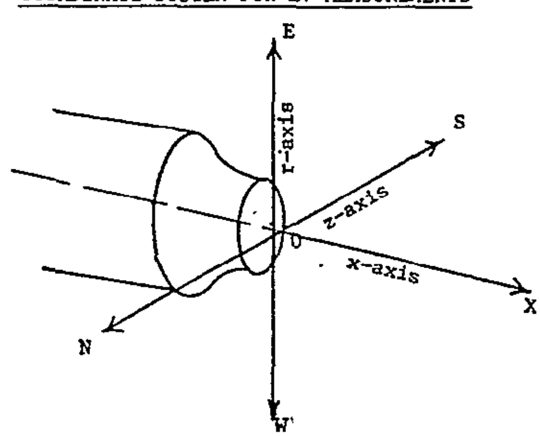

TABLE 5-10. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 1 Circular Conic Nozzle

TEST POINT 122

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	430 - 431	–	–
		= 0.5	432 - 433	28	1004 - 1031
		=			
		=			
	RADIAL	x/D = 0	434 - 435	–	–
		= 1	436 - 437	–	–
		= 4.2	438 - 439	–	–
		= 8.5	440 - 441	6	1032 - 1037
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

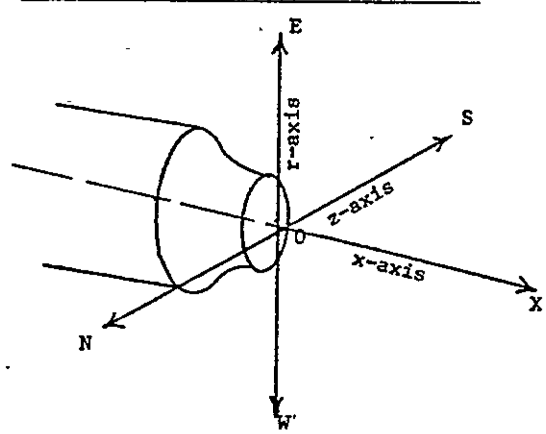

TABLE 5-11. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 2 Circular Convergent-Divergent Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 207

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	4012 - 4013	-	-
		= 0.54	4014 - 4015	10	4018 - 4028
		=			
		=			
	RADIAL	x/D =			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

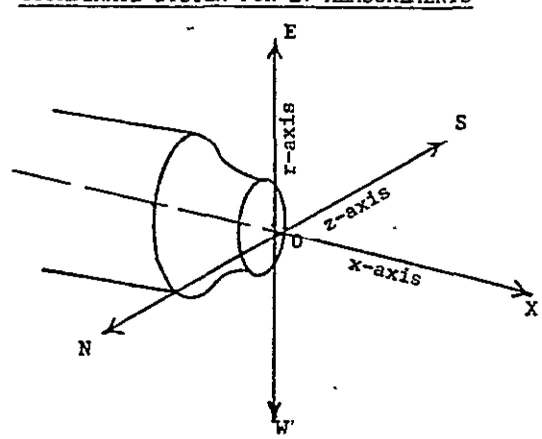

TABLE 5-12. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 2 Circular Convergent-Divergent Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 211

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	4018 - 4019	-	-
		= 0.54	4016 - 4017	10	4029 - 4038
		=			
		=			
	RADIAL	x/D =			
		=			
		=			
		=			
		=			
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		=			
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		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

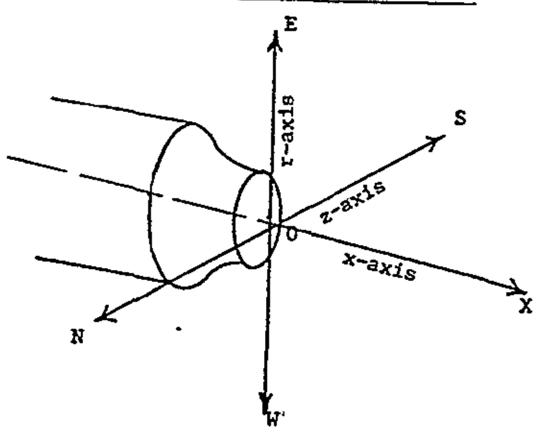

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TABLE 5-13. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 2 Circular Convergent-Divergent Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 213

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	4020 - 4021	-	-
		= 0.51	4024 - 4025	-	-
		= 0.55	4022 - 4023	11	4040 - 4050
		= 0	4034 - 4035	-	-
	RADIAL	x/D = 1.1	4028 - 4029	-	-
		= 4.3	4030 - 4031	-	-
		= 8.6	4032 - 4033	6	4051 - 4056
		= 0	4026 - 4027		
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

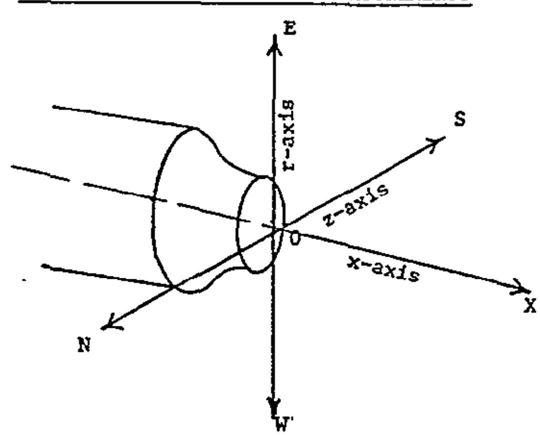

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TABLE 5-14. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 2 Circular Convergent-Divergent Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 214

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	4036 - 4037	-	-
		= 0.5	4038 - 4039	10	4059 - 4068
		=			
		=			
	RADIAL	x/D = 0.2	4046 - 4047	-	-
		= 1.2	4044 - 4045	-	-
		= 4.4	4042 - 4043	-	-
		= 8.7	4040 - 4041	7	4069 - 4075
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

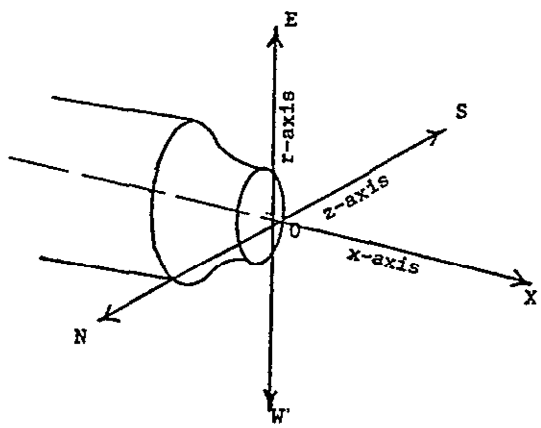

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TABLE 5-15. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 2 Circular Convergent-Divergent Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 221

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	4002 - 4003	–	–
		= 0.53	4000 - 4001	12	4000 - 4011
		=			
		=			
	RADIAL	x/D = 0	4010 - 4011	–	–
		= 1.1	4008 - 4009	–	–
		= 4.3	4006 - 4007	–	–
		= 8.6	4004 - 4005	6	4012 - 4017
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

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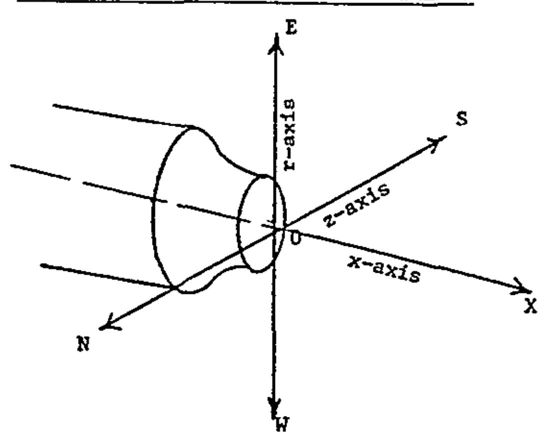

TABLE 5-16. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 2 Circular Convergent-Divergent Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 222

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	4048 - 4049	-	-
		= 0.5	4050 - 4051	10	4076 - 4085
		=			
		=			
	RADIAL	x/D = 0	4052 - 4053	-	-
		= 1.0	4054 - 4055	-	-
		= 4.3	4056 - 4057	-	-
		= 8.5	4058 - 4059	5	4087 - 4091
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

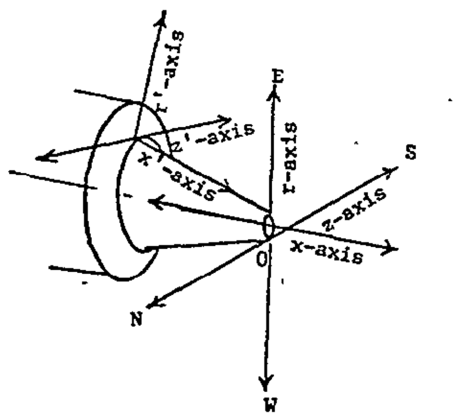

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TABLE 5-17. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 3 Contoured Convergent Annular Plug Nozzle

TEST POINT 309

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	87 - 88	4	227 - 230
		= 0.57	89 - 90	–	–
		=			
		=			
	RADIAL	x/D =			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	91 - 94	–	–
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

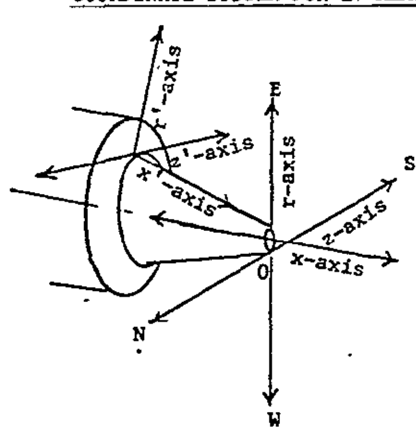

TABLE 5-18. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 3 Contoured Convergent Annular Plug Nozzle

TEST POINT 313

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	105 - 106	5	249 - 253
		= 0.5	107 - 108	7	255 - 261
		=			
		=			
	RADIAL	x/D = 0	109	4	262 - 265
		= 2	110	–	–
		= 4	111	6	266 - 271
		= 6	114	–	–
		= 8	115	5	272 - 276
		=10	116	–	–
		= 4	112 - 113	–	–
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	95 - 96	–	–
		= 1.0	97 - 98	4	245 - 248
		= 1.5	99 - 100	–	–
		= 2.0	101 - 102	–	–
		= 0.5	103	12	231 - 242
		= 1.0	104	–	–

COORDINATE SYSTEM FOR LV MEASUREMENTS

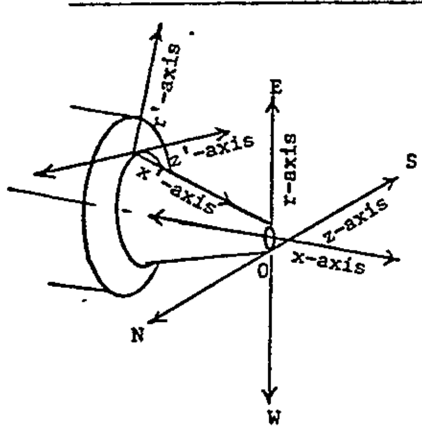

TABLE 5-19. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 3 Contoured Convergent Annular Plug Nozzle

TEST POINT 314

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES: MEASURED FLOW REGIONS	MEAN VELOCITY TRAVERSES: GRAPH ID. NUMBER	TURBULENCE HISTOGRAMS: NO. OF HISTO. & MEASURED LOCATION	TURBULENCE HISTOGRAMS: HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	146 - 147	7	322 - 328
		= 0.5	148 - 149	7	329 - 335
		=			
		=			
	RADIAL	x/D = 0	155	7	350 - 356
		= 2	154	1	349
		= 4	153	6	343 - 348
		= 6	152	–	–
		= 8	151	7	336 - 342
		= 10	150	–	–
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	156 - 157	12	357 - 368
		= 1.0	158 - 159	4	369 - 372
		= 1.55	160 - 161	-	-
		= 0.43	162 - 163	2	373 - 374
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

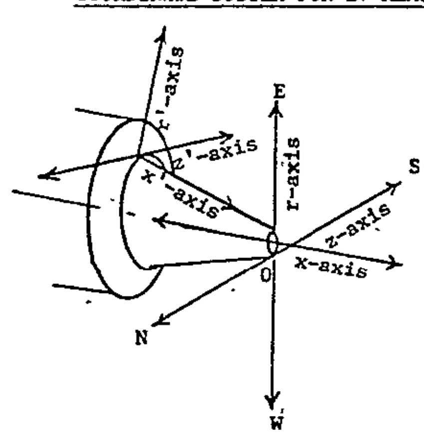

TABLE 5-20. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 3 Contoured Convergent Annular Plug Nozzle

TEST POINT 321

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	125	6	292 - 297
		= 0	126 - 127	–	–
		= 0.5	128 - 129	6	298 - 303
		= 0.5	130	–	–
	RADIAL	x/D = 0	117	5	277 - 281
		= 2	118	–	–
		= 4	119	5	282 - 286
		= 4	120 - 121	–	–
		= 6	122	–	–
		= 8	123	5	287 - 291
		= 10	124	–	–
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	132 - 133	13	304 - 316
		= 1.0	134 - 135	5	317 - 321
		= 1.5	136 - 137	–	–
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

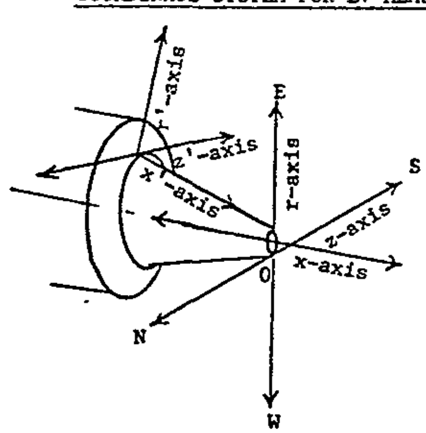

TABLE 5-21. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 3 Contoured Convergent Annular Plug Nozzle

TEST POINT 322

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	170 - 171	–	–
		= 0	174 - 177	5	393 - 397
		= 0.5	178 - 179	7	398 - 405
		=			
	RADIAL	x/D = 0	181	6	407 - 413
		= 2	182	–	–
		= 4	183	6	415 - 421
		= 6	184	–	–
		= 8	186	7	422 - 428
		=10	185	–	–
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	165 - 166	13	375 - 387
		= 1.0	167 - 168	4	388 - 391
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

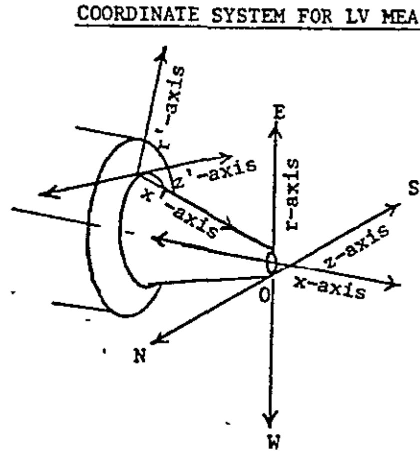

TABLE 5-22. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 3 Contoured Convergent Annular Plug Nozzle

TEST POINT 1313

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	142 - 143	-	-
		= 0.5	144 - 145	-	-
		=			
		=			
	RADIAL	x/D =			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	138 - 139	-	-
		= 1.0	140 - 141	-	-
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

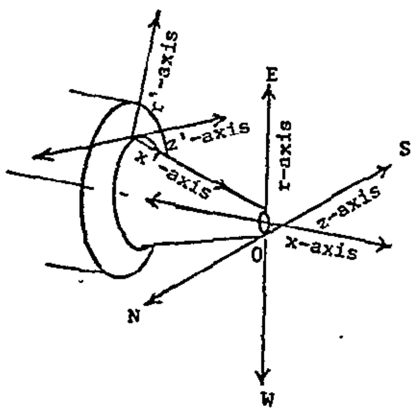

TABLE 5-23. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 4 Convergent-Divergent Annular Plug Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 407

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	227 - 228	-	-
		=			
		=			
		=			
	RADIAL	x/D =			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	205 - 206	-	-
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

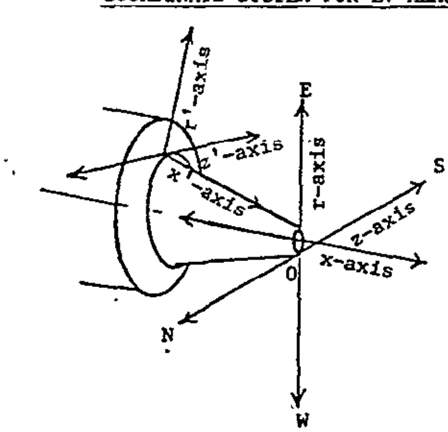

TABLE 5-24. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 4 Convergent-Divergent Annular Plug Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 411

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	225 - 226	–	–
		=			
		=			
		=			
	RADIAL	x/D =			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	209 - 210	–	–
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

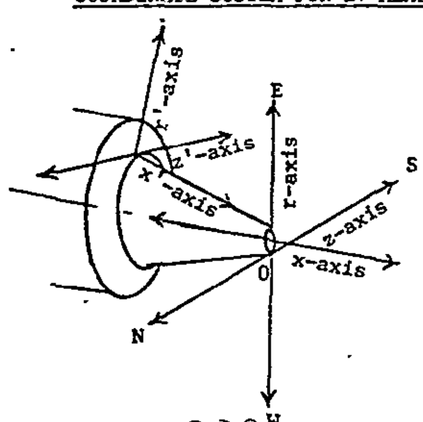

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TABLE 5-25. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 4 Convergent-Divergent Annular Plug Nozzle for Design at $M_j \simeq 1.4$

TEST POINT 413

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	187 - 188	5	430 - 437
		= 0.5	189 - 190	7	447 - 455
		= 0	191 - 192	-	-
		= 0.5	193 - 194	-	-
	RADIAL	x/D = 0.2	200	6	468 - 476
		= 2.2	199	-	-
		= 4.2	198	5	463 - 467
		= 6.2	197	-	-
		= 8.2	196	5	457 - 461
		=10.2	195	-	-
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	201 - 202	10	477 - 486
		= 1.0	203 - 204	5	487 - 491
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

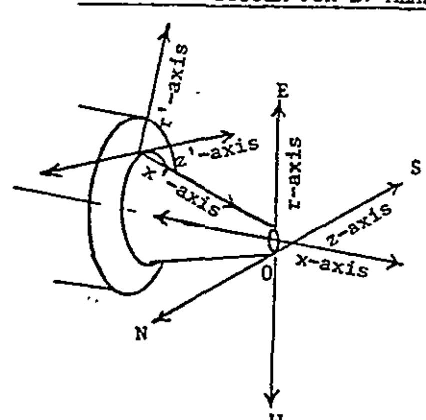

TABLE 5-26. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 4 Convergent-Divergent Annular Plug Nozzle for Design at $M_j \simeq 1.4$

TEST POINT 414

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	229 - 230	9	550 - 561
		= 0.5	231 - 232	10	562 - 572
		=			
		=			
	RADIAL	x/D = -0.82	239	2	595 - 596
		= 0.1	238	6	588 - 594
		= 2.0	237	–	–
		= 4.0	236	7	580 - 587
		= 6.0	235	–	–
		= 8.0	234	7	573 - 579
		= 10.0	233	–	–
		= -1.58	243	–	–
		= -1.68	241	–	–
SLANT TRAVERSE	AXIAL	r'/h = 0.5	244 - 245	5	603 - 608
		= 1.0	242	5	597 - 602
		= 1.0	246	–	–
		= 1.5	247 - 248	–	–
		= 2.0	249 - 250	–	–
		= 2.5	251 - 252	–	–
	RADIAL (CHORD-WISE)	r'/h= 0.42 @ x'/h= 0	240		
		= =			
		= =			
		= =			
		= =			
		= =			
		= =			
		= =			
		= =			

COORDINATE SYSTEM FOR LV MEASUREMENTS

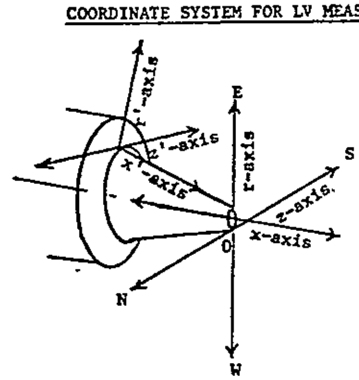

TABLE 5-27. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 4 Convergent-Divergent Annular Plug Nozzle for Design @ $M_j \simeq 1.4$

TEST POINT 419

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D =			
		=			
		=			
		=			
	RADIAL	x/D =			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	207 - 208	–	–
		=			
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

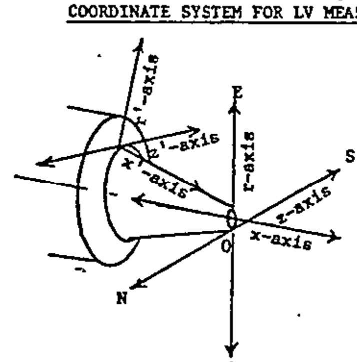

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TABLE 5-28. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 4 Convergent-Divergent Annular Plug Nozzle for Design at $M_j \simeq 1.4$

TEST POINT 421

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	215 - 216	6	513 - 520
		= 0.5	217 - 218	9	521 - 532
		=			
		=			
	RADIAL	x/D = 0	219	5	533 - 538
		= 2	220	-	-
		= 4	221	4	539 - 542
		= 6	222	2	543 - 544
		= 8	223	5	545 - 549
		= 10	224	-	-
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	213 - 214	11	501 - 511
		= 1.0	211 - 212	4	497 - 500
		=			
		=			
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

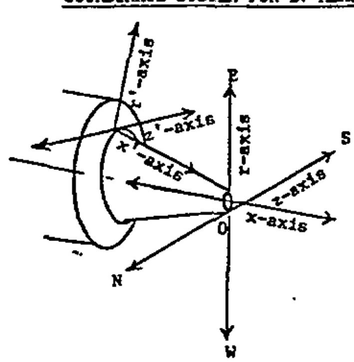

TABLE 5-29. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 4 Convergent-Divergent Annular Plug Nozzle for Design @ $M_j \cong 1.4$

TEST POINT 422

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	261 - 262	9	625 - 633
		= 0.5	263 - 264	5	634 - 640
		=			
		=			
	RADIAL	x/D = 0	265	2	641 - 642
		= 1.8	266	3	643 - 645
		= 3.7	267	5	646 - 650
		=			
		=			
		=			
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	253 - 254	10	609 - 618
		= 1.0	255 - 256	5	619 - 624
		= 1.5	257 - 258	–	–
		= 2.0	259 - 260	–	–
		=			
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

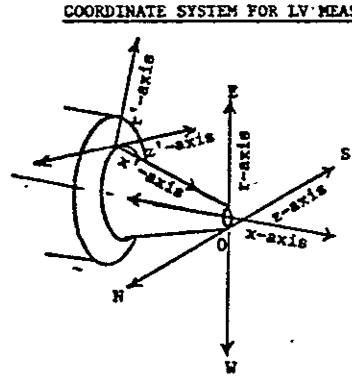

TABLE 5-30. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 5 20 ELEMENT CONVERGENT ANNULAR SUPPRESSOR NOZZLE

TEST POINT 513

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	596 - 597	-	-
		= 0.5	598 - 599B	18	1377 - 1394
		= 0.2	636 - 637		
		=			
	RADIAL	x/D = 0	600 - 601	-	-
		= 2	602 - 603	13	1395 - 1407
		= 6	604 - 605	-	-
		= 8	606 - 607	11	1408 - 1418
		=			
		=			
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	610 - 611	20	1423 - 1442
		= 1.0	630 - 631	21	1452 - 1472
		=			
		=			
		=			
		=			
	RADIAL (CHORD-WISE)	r'/h = 0.5 @ x'/h = 0.14	608	4	1419 - 1422
		= 0.5 = 0.14	609	-	-
		= 0.5 = 2.3	616 - 617	3	1443 - 1445
		= 0.5 = 1.1	618 - 619	3	1446 - 1448
		= 0.5 = 3.4	620 - 621	3	1449 - 1451
		= 0.5 = 4.6	622 - 623	-	-
		= 0.5 = 5.7	624 - 625	-	-
		= 0.5 = 6.9	626 - 627	-	-
		= 0.5 = 8.1	628 - 629	-	-
		= 1.0 = 0.96	632 - 635	5	1473 - 1477
		= 1.0 = 1.93	636 - 637	-	-

See Test Point 514 for Coordinate System for LV Measurements

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TABLE 5-31. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 5 20 Element Convergent Annular Suppressor Nozzle

TEST POINT 514

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	721 - 722	–	–
		= 0.5	723 - 724	21	1630 - 1650
		=			
		=			
	RADIAL	x/D = 0	725 - 726	–	–
		= 2	727 - 728	–	–
		= 6	729 - 730	–	–
		= 8	731 - 732	12	1651 - 1662
		=12	733 - 734	–	–
		= 0	713 - 714	–	–
		=-0.5	715 - 716	–	–
		=-0.92	717 - 718	–	–
		=-1.58	719 - 720	–	–
SLANT TRAVERSE	AXIAL	r'/h = 0.5	701 - 702	12	1594 - 1606
		= 1.0	703 - 704	10	1607 - 1618
		= 1.0	705 - 706	10	1619 - 1629
		= 1.25	707 - 708	–	–
		= 1.5	709 - 710	–	–
		= 0.3	711 - 712	–	–

COORDINATE SYSTEM FOR LV MEASUREMENTS

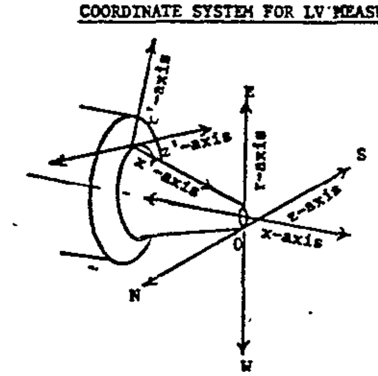

TABLE 5-32. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 5 20 Element Convergent Annular Suppressor Nozzle

TEST POINT 1513

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	638 - 639	-	-
		= 0.5	640 - 641	20	1478-1497
		= 0.92	666 - 667	-	-
		=			
	RADIAL	x/D = 0.3	642 - 643	-	-
		= 2.0	644 - 645	-	-
		= 5.6	646 - 647	-	-
		= 7.4	648 - 649	10	1498-1508
		= 9.2	650 - 651	-	-
		= -1.1	658 - 659	-	-
		= -1.53	656 - 657	-	-
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	652 - 653	10	1509-1519
		= 1.0	654 - 655	17	1520-1537
		=			
		=			
		=			
		=			
	RADIAL (CHORD-WISE)	r'/h = 0.5 @ x'/h = 1.12	664 - 665		
		= 0.5 = 2.43	662 - 663		
		= 0.5 = 4.29	660 - 661		
		= =			
		= =			
		= =			
		= =			
		= =			
		= =			

COORDINATE SYSTEM FOR LV MEASUREMENTS

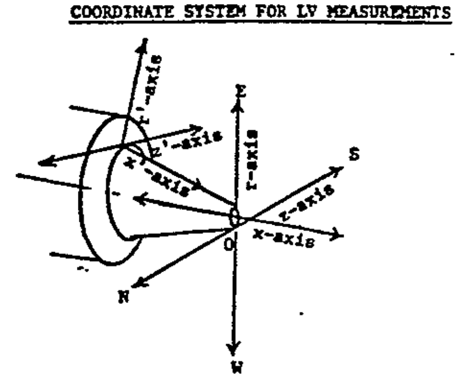

TABLE 5-33. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 5 20 Element Convergent Annular Suppressor Nozzle

TEST POINT 1514

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	668 - 669	–	–
		= 0.5	670 - 671	20	1538 - 1557
		=			
		=			
	RADIAL	x/D = -0.12	672 - 673	–	–
		= 1.88	674 - 675	–	–
		= 5.9	676 - 677	–	–
		= 7.9	678 - 679	11	1558 - 1568
		= 9.8	680 - 681	–	–
		= 0.08	693 - 694	–	–
		= -0.5	695 - 696	–	–
		= -0.93	697 - 698	–	–
		= -1.35	699 - 700	–	–
SLANT TRAVERSE	AXIAL	r'/h = 0.5	682 - 683	4	1569 - 1572
		= 0.5	684	7	1573 - 1579
		= 1.0	685 - 686	14	1580 - 1593
		= 1.25	687 - 688		
		= 1.5	689 - 690		
		= 0.3	691 - 692		

COORDINATE SYSTEM FOR LV MEASUREMENTS

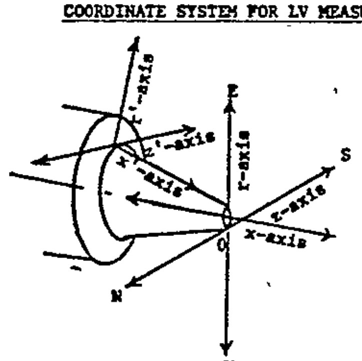

TABLE 5-34. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 0 — 20 Element Convergent-Divergent Annular Suppressor Nozzle for

TEST POINT 613 — Design at $M_j \simeq 1.4$

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES: MEASURED FLOW REGIONS	MEAN VELOCITY TRAVERSES: GRAPH ID. NUMBER	TURBULENCE HISTOGRAMS: NO. OF HISTO. & MEASURED LOCATION	TURBULENCE HISTOGRAMS: HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	737 - 738	-	-
		= 0.5	739 - 740	19	1667-1686
		= 1.0	743 - 744	-	-
		=			
	RADIAL	x/D = 0.	741 - 742	-	-
		= 3.4	745 - 746	9	1687-1696
		= 6.4	747 - 748	-	-
		= 8.6	749 - 750	10	1698-1707
		= -1.86	751 - 752	-	-
		= -1.56	753 - 754	-	-
		=			
		=			
		=			
SLANT TRAVERSE	AXIAL	r'/h = 0.5	755 - 756	19	1708-1727
		= 1.0	757 - 758	10	1728-1737
		= 1.5	759 - 760	-	-
		= 0.3	761 - 762	-	-
		=			
		=			
	RADIAL (CHORD-WISE)	r'/h = 0.5 @ x'/h = 0.78	762A - 762B		
		= 0.5 = 1.61	763 - 764		
		= 0.5 = 2.43	765 - 766		
		= 0.5 = 3.25	767 - 768		
		= 0.5 = 4.07	769 - 770		
		= 0.5 = 4.91	771		
		= 0.5 = 5.72	772		
		= 1.0 = 1.03	773		
		= 0.5 = 0.13	774 - 775		

COORDINATE SYSTEM FOR LV MEASUREMENTS

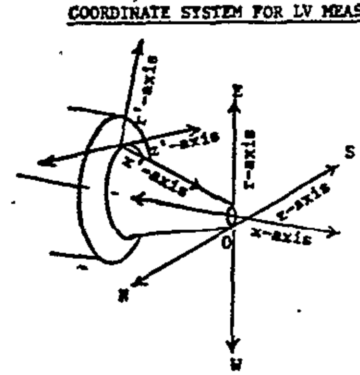

TABLE 5-35. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 6 20 Element Convergent-Divergent Annular Suppressor Nozzle

TEST POINT 614 for Design @ $M_j \simeq 1.4$

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	786 - 787	-	-
		= 0.5	788 - 789	19	1761 - 1782
		= 0.5	790 - 791	4	1786 - 1789
		= 0.5		4	1792 - 1795
	RADIAL	x/D = 0	792 - 793	-	-
		= 2.0	794 - 795	7	1796 - 1802
		= 6.4	796 - 797	-	-
		= 8.6	798 - 799	10	1803 - 1812
		= 12.8	800 - 801	-	-
		= -1.5	802 - 803	-	-
		= -1.1	804 - 805	-	-
		= -0.8	806 - 807	-	-
		= -0.5	808 - 809	-	-
SLANT TRAVERSE	AXIAL	r'/h = 0.5	778 - 779	10	1751 - 1760
		= 1.0	776 - 777	13	1738 - 1750
		= 0.3	780 - 781	-	-
		= 1.25	782 - 783	-	-
		= 1.5	784 - 785	-	-
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

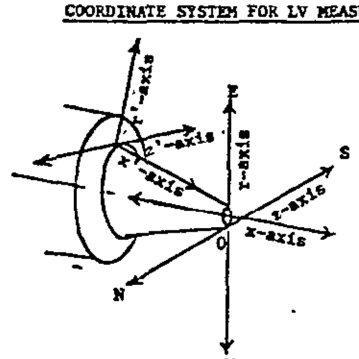

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TABLE 5-36. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 6   20 Element Convergent-Divergent Annular Suppressor Nozzle for

TEST POINT 1613   Design @ $M_j \simeq 1.4$

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	810 - 811	–	–
		= 0.5	812 - 813	20	1813 - 1832
		=			
		=			
	RADIAL	x/D = 0	814 - 815	–	–
		= 2	816 - 817	7	1833 - 1839
		= 6.4	818 - 819	–	–
		= 8.6	820 - 821	10	1840 - 1850
		= 12.8	822 - 823	–	–
		= -1.5	824 - 825	–	–
		= -1.1	826 - 827	–	–
		= -0.7	828 - 829	–	–
		= -0.5	830 - 831	–	–
SLANT TRAVERSE	AXIAL	r'/h = 0.5	832 - 833	10	1851 - 1860
		= 1.0	834 - 835	10	1861 - 1870
		= 1.25	836 - 837	–	–
		= 1.5	838 - 839	–	–
		= 0.84	840 - 841	–	–
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

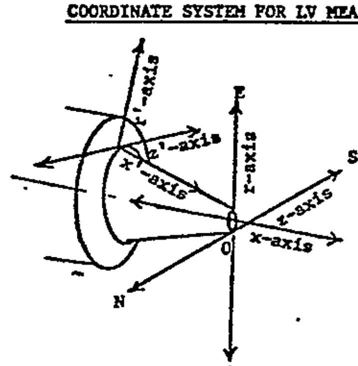

TABLE 5-37. SCOPE OF LV MEAN VELOCITY TRAVERSES AND POINT TURBULENCE HISTOGRAM LOCATIONS

MODEL 6 20 Element Convergent-Divergent Annular Suppressor Nozzle for

TEST POINT 1614 Design @ $M_j \simeq 1.4$

Type of Syst.	Type of Traverse	MEAN VELOCITY TRAVERSES		TURBULENCE HISTOGRAMS	
		MEASURED FLOW REGIONS	GRAPH ID. NUMBER	NO. OF HISTO. & MEASURED LOCATION	HISTOGRAM NO.
NORMAL TRAVERSE	AXIAL	r/D = 0	842 - 843	–	–
		= 0.48	844 - 845	19	1871 - 1890
		=			
		=			
	RADIAL	x/D = 0	846 - 847	–	–
		= 2	848 - 849	7	1891 - 1897
		= 6.4	850 - 851	–	–
		= 8.5	852 - 853	13	1899 - 1911
		= 12.8	854 - 855	–	–
		= -1.9	856 - 857	–	–
		= -1.4	858 - 859	–	–
		= -1.1	860 - 861	–	–
		= -0.7	862 - 863	–	–
		= -0.4	864 - 865	–	–
SLANT TRAVERSE	AXIAL	r'/h = 0.2	866 - 867	–	–
		= 1.0	868 - 869	23	1912 - 1934
		= 0.5	870 - 871	10	1935 - 1945
		= 1.5	872 - 873		
		=			

COORDINATE SYSTEM FOR LV MEASUREMENTS

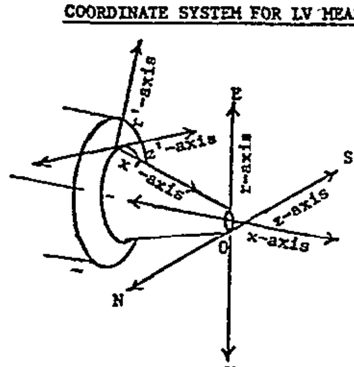

TABLE 5-38. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 3/29/82

MODEL = 1 P_r = 3.128 V_j = 2402 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 113 T_T = 1703 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF.		1.883	7.000	13.902	EXIT ON JET AXIS					
400		AX		·	7.013				0	·	·	AX. TRAVS. ON JET AXIS
401				·	·					·	·	
402				·	7.013					·	·	
403				·	·					·	·	
404				·	7.781				0.5	·	·	AX. TRAVS. ON r/D_{eq}=0.5
405				·						·	·	
	926			1.958				1.04		2426	95	
	927			1.958				1.04		2429	90	
	928			2.000				1.63		1732	307	
	929			1.958				1.04		2390	124	HISTO. MEASURED AXIALLY ON r/D_{eq}=0.5
	930			2.041				2.20		2109	228	
	931			2.080				2.74		1745	398	
	932			2.140				3.57		1830	326	
	933			2.099				3.00		1626	363	
	934			2.180				4.13		1589	416	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-38. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (CONTINUED)

TEST DATE 3/29/82

MODEL = 1 P_r = 3.128 V_j = 2402 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 113 T_T = 1703 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	935	AX		2.200	7.781	13.902		4.41	0.5	1621	357	
	936			2.240				4.96		1763	430	
	937			2.280				5.52		1519	378	
	938			2.320				6.08		1666	363	
	939			2.360				6.63		1522	400	
	940			2.400				7.19		1605	392	HISTO. MEASURED AXIALLY
	941			2.440				7.74		1516	393	ON r/D_{eq} = 0.5 (CONTINUED)
	942			2.513				8.76		1517	385	
	943			2.597				9.93		1452	407	
	944			2.695				11.3		1323	382	
	945			2.774				12.4		1227	371	
	946			1.924				0.57		2395	72	
	947			1.972				1.24		2137	284	
	948			2.016				1.85		2028	225	
	949			2.060				2.46		2072	290	
	950			2.122				3.32		1889	308	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-38. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (CONCLUDED)

TEST DATE 3/29/82

MODEL = 1 P_r = 3.128 V_j = 2402 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 113 T_T = 1703 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	951	AX		2.161	7.781	13.902		3.88	0.5	1811	360	HISTO. MEASURED AXIALLY ON x/D_{eq}=0.
406		EW		1.891	·			0.08	·	·	·	(CONCLUDED)
407				"	·			0.08	·	·	·	
408				1.962	·			1.07	·	·	·	RADIAL TRAVS. ON
409				"	·			1.07	·	·	·	x/D_{eq}=0.08, 1.07, 4.3
410				2.194	·			4.3	·	·	·	AND 8.6, RESPECTIVELY
411				"	·			4.3	·	·	·	
412				2.502	·			8.6	·	·	·	
413					·			8.6	·	·	·	
	952				7.753				0.49	1574	431	
	953				8.067				0.70	1621	397	
	954				7.518				0.34	1001	324	HISTO. MEASURED RADIALLY
	955	NOT RECORDED			·				·	·	·	ON x/D_{eq}=8.6
	956				7.253				0.17	2229	230	
	957				7.011				0.01	2271	195	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TABLE 5-39. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 3/30/82

MODEL = 1 P_r = 3.316 V_j = 2457 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 121 T_T = 1708 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF.		1.884	7.018	13.902	EXIT ON JET AXIS					
414		AX		NOT RECORDED					.	.	.	
415									.	.	.	
416				1.884	7.018			.	0	.	.	AX. TRAVS. ON JET AXIS
417				"	"			.	"	.	.	
418		EW		1.891	.			0.1	.	.	.	
419				"	.			"	.	.	.	RADIAL TRAVS. ON
420				1.962	.			1.1	.	.	.	X/Deq = 0.1, 1.1 AND 4.2,
421				"	.			"	.	.	.	RESPECTIVELY
422				2.194	.			4.2	.	.	.	
423				"	.			"	.	.	.	
424		AX		.	7.748			.	0.5	.	.	AX. TRAVS. ON Y/Deq = 0.5
425				.	"			.	"	.	.	
426		EW		2.502	.			8.5	.	.	.	RADIAL TRAVS. ON X/Deq = 8.5
427				"	.			"	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

TABLE 5-39. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (CONTINUED)

TEST DATE 3/30/82

MODEL = 1 P_r = 3.316 V_j = 2457 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 121 T_T = 1708 °R $V_{a/c}$ = 0 Ft/Sec h = — In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	958	EW		2.502	7.012	13.902		8.5	0	2477	176	
	959				7.253				0.16	2420	198	
	960				7.253					2379	226	
	961				7.253					2211	661	HISTO. MEASURED
	962				7.253					2413	203	RADIALLY ON x/D_{eq} = 8.5
	963				7.508				0.32	2126	325	
	964				7.508				"	2127	336	
	965				7.753				0.48	1672	416	
	966				8.064				0.69	1084	373	
	967				8.064				"	1188	362	
	968	AX		1.924	7.748			0.56	0.48	2497	77	
	969			1.969				1.18		2492	117	
	970			2.005				1.68		1998	326	HISTO. MEASURED
	971			2.005				1.68		1862	557	AXIALLY ON r/D_{eq} = 0.48
	912			2.005				1.68		1961	314	
	973			2.060				2.45		2409	198	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TABLE 5-39. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (CONTINUED)

TEST DATE 3/30/82

MODEL = 1 P_r = 3.316 V_j = 2457 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 121 T_T = 1708 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	974	AX		2.112	7.748	13.902		3.17	0.48	1827	360	
	975	↓		2.164	"			3.89	"	2119	280	
428		AX		·	7.798			·	0.51	·	·	AX. TRAVS. ON r/D_{eq}=0.5
429				·				·		·	·	
	976			1.943				0.82		2532	633	
	978			1.997				1.57		1846	330	
	978			2.050				2.31		2371	187	
	979			2.111				3.16		1753	370	
	980			2.164				3.89		1983	355	
	981			2.202				4.42		1748	397	HISTO. MEASURED
	982			2.238				4.92		1844	352	AXIALLY ON r/D_{eq}=0.5
	983			2.281				5.52		1790	409	
	984			2.320				6.06		1700	379	
	985			2.360				6.62		1772	413	
	986			2.400				7.17		1852	385	
	987			2.442				7.76		1758	401	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-39. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (CONCLUDED)

TEST DATE 3/30/82

MODEL = 1 P_r = 3.316 V_j = 2457 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 121 T_T = 1708 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	988	AX		2.513	7.798	13.772		8.75	0.51	1719	401	
	989			2.597				9.91		1611	409	
	990			2.695				11.28		1459	406	
	991			2.774				12.37		1377	379	
	992			1.922				0.53		2466	74	
	993			1.972				1.22		2431	260	
	994			2.018				1.86		1917	275	
	995			2.035				2.09		2134	292	HISTO. MEASURED AXIALLY
	996			2.073				2.63		2135	322	ON $r/D_{eq} = 0.5$
	997			2.092				2.89		1794	402	
	998			2.131				3.43		1849	316	
	999			2.149				3.68		1911	338	
	1000			2.185				4.19		1768	397	
	1101			2.149				3.68		1921	317	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-40. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 3/31/82

MODEL = 1 P_r = 3.323 V_j = 2463 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 122 T_T = 1715 °R $V_{a/c}$ = 400 Ft/Sec h = - In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		1.883	7.009	13.850	EXIT ON	JET	AXIS			
	1002		NOT RECORDED		.			.	.	.	.	
	1003			.	.			.	.	.	.	
430		AX		.	7.018			.	0	.	.	
431				.	″			.	″	.	.	AX. TRAVS. ON r/D_{eq} = 0
432				.	7.808			.	0.5	.	.	AND 0.5, RESPECTIVELY
433				.	″			.		.	.	
	1004			2.774	7.808			12.37		1413	332	
	1005			2.695				11.28		1542	328	
	1006			2.644				10.57		1533	359	
	1007			2.605				10.02		1670	397	HISTO. MEASURED AXIALLY
	1008			2.564				9.45		1684	360	ON r/D_{eq} = 0.5
	1009			2.527				8.94		1734	329	
	1010			2.488				8.40		1689	399	
	1011			2.488				8.40		1650	361	
	1012			2.445				7.80		1757	325	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-40 AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (CONTINUED)

TEST DATE 3/31/82

MODEL = 1 P_r = 3.323 V_j = 2463 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 122 T_T = 1715 °R $V_{a/c}$ = 400 Ft/Sec h = - In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1013	AX		2.411	7.808	13.850		7.33	0.5	1607	353	
	1014			2.364				6.67		1876	315	
	1015			2.319				6.05		1613	331	
	1016			2.257				5.19		1896	303	
	1017			2.203				4.44		1784	369	
	1018			2.161				3.85		2036	295	
	1019			2.102				3.03		1822	357	
	1020			2.045				2.24		2321	186	HISTO. MEASURED AXIALLY
	1021			2.156				3.78		2042	272	ON r/D_{eq} = 0.5 (CONTINUED)
	1022			1.995				1.54		2007	333	
	1023			1.944				0.83		2513	70	
	1024			1.925				0.57		2439	85	
	1025			1.975				1.27		2388	208	
	1026			2.025				1.95		2184	218	
	1027			2.075				2.66		2211	318	
	1028			2.127				3.38		1868	276	

NOMENCLATURE

P_r = Pressure Ratio

V_j = Fully Expanded Jet Velocity

D_{eq} = Equivalent Diameter

T_T = Total Temperature

$V_{a/c}$ = Free Jet Velocity

h = Annulus Height

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TABLE 5-40. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (CONTINUED)

TEST DATE 3/31/82

MODEL = 1 P_r = 3.323 V_j = 2463 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 122 T_T = 1715 °R $V_{a/c}$ = 400 Ft/Sec h = - In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1029	AX		2.181	7.808	13.850		4.13	0.5	1992	336	HISTO. MEASURED AXIALLY
	1030			2.232				4.84		1761	183	ON r/D_{eq}=0.5
	1031			2.290				5.64		1855	338	
434		EW		1.889				0.0				
435				″				″				
436				1.960				1.0				
437				″				″				RADIAL TRAVS. ON
438				2.192				4.2				x/D_{eq}=0, 1.0, 4.2, 8.5,
439				″				″				RESPECTIVELY
440				2.500				8.5				
441												
	1032				7.013				0	2199	117	
	1033				7.253				0.16	1964	719	HISTO. MEASURED
	1034				7.253				0.16	2213	122	RADIALLY ON x/D_{eq}=8.5
	1035				7.518				0.33	2140	214	
	1036				7.753				0.48	1783	319	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TEST DATE 3/31/82

TABLE 5-40. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (CONCLUDED)

MODEL = 1 P_r = 3.323 V_j = 2463 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 122 T_T = 1715 °R $V_{a/c}$ = 400 Ft/Sec h = - In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1037	EW	-	2.500	8.067	13.850	-	8.5	0.69	1241	311	SEE PREVIOUS PAGE FOR REMARKS

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-41. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 3/31/82

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MODEL = 1 P_r = 3.128 V_j = 2425 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 114 T_T = 1734 °R $V_{a/c}$ = 400 Ft/Sec   h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		1.881	7.018	13.843	EXIT ON	JET AXIS				
442		AX		·	7.018			·	0	·	·	AX. TRAVS. ON r/Deq = 0 AND 0.5, RESPECTIVELY
443				·	"			·	"	·	·	
444				·	7.807			·	0.5	·	·	
445				·	"			·	"	·	·	
	1038			1.939	7.807			0.76	0.5	2438	78	HISTO. MEASURED AXIALLY ON r/Deq = 0.5
	1039			1.956				1.00		2447	95	
	1040			1.991				1.49		1861	326	
	1041			1.997				1.29		2000	320	
	1042			2020				1.89		2169	219	
	1043			2.050				2.31		2238	239	
	1044			2.077				2.68		1845	360	
	1045			2.096				2.95		1717	179	
	1046			2.119				3.27		1888	289	
	1047			2.138				3.53		2005	271	
	1048	↓		2.161	↓	↓		3.85	↓	1863	339	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity   h = Annulus Height

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TABLE 5-41. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 3/31/82

MODEL = 1 P_r = 3.128 V_j = 2425 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 114 T_T = 1734 °R $V_{a/c}$ = 400 Ft/Sec   h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1049	AX		2.189	7.807	13.843		4.24	0.5	1604	345	
	1050			2.231				4.82		1882	299	
	1051			2.271				5.39		1730	367	
	1052			2.317				6.02		1819	300	
	1053			2.353				6.52		1784	339	HISTO MEASURED
	1054			2.395				7.10		1771	317	AXIALLY ON r/D_{eq}=0.5
	1055			2.488				8.40		1783	328	(CONTINUED)
	1056			2.567				9.50		1729	339	
	1057			2.694				11.26		1550	363	
446		EW		1.889	·			0	·	·	·	
447				;	·			;	·	·	·	RADIAL TRAVS. ON
	1058		NOT	RECORDED					·	·	·	x/D_{eq}=0 AND 3,
448				2.097	·			2.96	·	·	·	RESPECTIVELY.
449					·				·	·	·	
	1059				7.636				0.40	2212	115	HISTO MEASURED
	1060				7.044				0.02	2029	77	RADIALLY ON x/D_{eq}=3

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity   h = Annulus Height

TABLE 5-42. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 4/7/82

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MODEL = 2 P_r = 3.309 V_j = 2447 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 221 T_T = 1697 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		1.977	6.972	13.544	EXIT ON JET AXIS					
4000		AX		.	7.729			.	0.53	.	.	AX. TRAVERS. ON r/D_{eq}=0.53
4001				.				.		.	.	
	4000			3.000				14.22		1174	.351	
	4001			2.666				9.58		1452	376	
	4002			2.520				7.55		1581	409	
	4003			2.377				5.56		1567	.396	
	4004			2.552				7.98		1482	.382	
	4005			2.184				2.88		1404	.378	HISTO. MEASURED AXIALLY
	4006			2.157				2.50		1424	379	ON r/D_{eq}=0.53
	4007			2.084				1.49		1198	.367	
	4008			2.064				1.21		1128	.347	
	4009			2.035				0.81		974	.324	
	4010			2.118				1.96		1270	373	
	4011			2.217				3.34		1347	.349	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-41. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 3/31/82

MODEL = 1 P_r = 3.128 V_j = 2425 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 114 T_T = 1734 °R $V_{a/c}$ = 400 Ft/Sec h = — In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1061	EW		2.097	6.427	13.843		2.96	-0.39	2212	128	SEE HISTO NO. 1061 FOR REMARK
450				2.145	·			3.63	·	·		RADIAL TRAVS. ON X/D_{eq} = 3.6
451					·				·	·	·	
	1062				7.670				0.43	2473	114	HISTO. MEASURED RADIALLY
	1063				7.041				0.02	2690	148	ON X/D_{eq} = 3.6
452				2.195	·			4.3	·	·	·	RADIAL TRAVS. ON X/D_{eq} = 4.3
453					·				·			
	1064				NOT RECORDED							
	1065											
454				2.500	·			8.6	·			RADIAL TRAVS. ON X/D_{eq} = 8.6
455					·				·	·		
	1066				7.010				-0.01	2552	120	HISTO. MEASURED RADIALLY
	1067				7.253				0.15	2537	119	ON X/D_{eq} = 8.6
	1068				7.516				0.32	2330	238	
456		AX		·	7.018			·	0	·	·	AX. TRAVS. ON JET AXIS
457				·	″			·	″	·	·	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TABLE 5-42. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 4/7/82

MODEL = 2 P_r = 3.309 V_j = 2447 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 221 T_T = 1697 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
4002		AX		·	6.906	13.544		·	0	·	·	AX. TRAVS. ON JET AXIS
4003				·				·	"	·	·	
4004		EW		2.593	·			8.6	·	·	·	RADIAL TRAVS. ON X/Deq = 8.6
4005					·				·	·	·	
	4012				8.111				0.78	880	305	
	4013				7.740				0.53	1435	376	
	4014				7.436				0.34	2031	327	HISTO. MEASURED ON
	4015				7.183				0.17	2366	208	X/Deq = 8.6
	4016				6.913				0	2449	108	
	4017				6.755				-0.11	2430	114	
4006				2.285	·			4.3	·	·	·	
4007				"	·			"	·	·	·	
4008				2.053	·			1.1	·	·	·	RADIAL TRAVS. ON X/Deq = 4.3,
4009				"	·			"	·	·	·	1.1 AND 0.1, RESPECTIVELY
4010				1.982	·			0.07	·	·	·	
4011				"	·			"	·	·	·	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-43. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 4/7/82

MODEL = 2 P_r = 3.018 V_j = 2372 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 207 T_T = 1707 °R $V_{a/c}$ = 0 Ft/Sec h = — In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		1.977	6.856	13.743	EXIT ON JET AXIS			.	.	
4012		AX		.	6.856			.	0	.	.	AX. TRAVS. ON JET AXIS AND r/Deq=0.54 RESPECTIVELY
4013				.	,,			.	,,	.	.	
4014				.	7.689			.	0.54	.	.	
4015				.	,,			.		.	.	
	4018			3.002	7.689			14.25		1098	318	HISTO. MEASURED AXIALLY ON r/Deq=0.54
	4019			2.768				11.00		1280	379	
	4020			2.620				8.94		1413	369	
	4021			2.490				7.13		1489	387	
	4022			2.406				5.96		1454	369	
	4023			2.313				4.67		1419	369	
	4024			2.238				3.63		1413	367	
	4025			2.154				2.46		1395	382	
	4026			2.099				1.70		1306	358	
	4027		NOT	RECORDED				–		–	–	
	4028			2.048				0.99		1151	349	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-44. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 4/7/82

MODEL = 2 P_r = 3.074 V_j = 2390 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 211 T_T = 1709 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		1.977	6.856	13.743	EXIT ON	JET	AXIS	.	.	
4016		AX		.	7.689			.	0.54	.	.	AX. TRAVS. ON r/D_{eq} = 0.54
4017				.				.		.	.	
	4029			3.000				14.2		1140	329	
	4030			2.751				10.8		1289	367	
	4031			2.653				9.4		1406	346	
	4032			2.548				7.9		1501	365	
	4033			2.450				6.6		1509	365	HISTO. MEASURED
	4034			2.349				5.2		1496	389	AXIALLY ON r/D_{eq} = 0.54
	4035			2.252				3.8		1423	361	
	4036			2.226				3.5		1407	350	
	4037			2.162				2.6		1387	369	
	4038			2.106				1.8		1315	346	
4018				.	6.856			.	0.0	.	.	AX. TRAVS. ON JET AXIS
4019				.	"			.	"	.	.	
	4039	NOT RECORDED			.			.	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-45. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 4/7/82

MODEL = 2 P_r = 3.121 V_j = 2403 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 213 T_T = 1708 °R $V_{a/c}$ = 0 Ft/Sec h = - In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		1.977	6.856	13.743	EXIT ON JET AXIS			·	·	
4020		AX		·	6.851			·	0	·	·	
4021				·	"			·	"	·	·	
4022				·	7.701			·	0.55	·	·	AX. TRAVS. ON r/Deq = 0, 0.55,
4023				·	"			·	"	·	·	AND 0.51, RESPECTIVELY
4024				·	7.641			·	0.51	·	·	
4025				·	"			·	"	·	·	
	4040			2.863	7.701			12.32	0.55	1205	325	
	4041			2.745				10.68		1268	369	
	4042			2.668				9.61		1334	358	
	4043			2.585				8.45		–	–	HISTO. AXIALLY MEASURED
	4044			"				"		1433	373	ON r/Deq = 0.55
	4045			2.511				7.42		1458	379	
	4046			2.432				6.33		1478	381	
	4047			2.368				5.44		1442	359	
	4048			2.267				4.03		1419	368	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-45. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/7/82

MODEL = 2 P_r = 3.121 V_j = 2403 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 213 T_T = 1708 °R $V_{a/c}$ = 0 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	4049	AX		2.191	7.701	13.743		2.98	0.55	1375	374	SEE PREVIOUS PAGE FOR
	4050	↓		2.114	"			1.90	"	1280	353	REMARKS
4026		EW		1.982	"			0	"	"	"	
4027				"	"			"	"	"	"	
4028				2.052	"			1.1	"	"	"	
4029				"	"			"	"	"	"	RADIAL TRAVS. ON X/Deq = 0,
4030				2.285	"			4.3	"	"	"	1.1, 4.3, AND 8.6,
4031				"	"			"	"	"	"	RESPECTIVELY
4032				2.593	"			8.6	"	"	"	
4033				"	"				"	"	"	
	4051			2.593	7.904				0.68	1073	334	
	4052				7.697				0.55	1412	364	
	4053				7.464				0.40	1894	354	HISTO. MEASURED RADIALLY
	4054				7.267				0.27	2222	253	ON X/Deq = 8.6
	4055				6.938				0.05	2417	126	
	4056	↓		↓	6.753	↓		↓	-0.07	2407	125	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TEST DATE 4/7/82

TABLE 5-45. AERODYNAMIC TEST RESULTS BY
LASER DOPPLER VELOCIMETER (Concluded)

MODEL = 2 P_r = 3.121 V_j = 2403 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 213 T_T = 1708 °R $V_{a/c}$ = 0 Ft/Sec h = - In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
4034		AX	-	.	6.856	13.743		.	0	.	.	AX. TRAVS. ON JET AXIS
4035		"	-	.	"	"		.	"	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-46. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 4/8/82

MODEL = 2 P_r = 3.121 V_j = 2609 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 214 T_T = 1716 °R $V_{a/c}$ = 400 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		1.965	6.959	13.753						
4036		AX		1.971				.	0	.	.	
4037				.				.	〃	.	.	AX. TRAVS. ON r/D_{eq} = 0 AND
4038				.	7.726			.	0.5	.	.	0.5, RESPECTIVELY
4039				.				.		.	.	
	4059			3.002				14.4		1198	292	
	4060			2.916				13.2		1243	295	
	4061			2.831				12.0		1264	307	
	4062			2.746				10.9		1315	309	
	4063			2.672				9.8		1354	318	HISTO. MEASURED AXIALLY
	4064			2.597				8.8		1443	346	ON r/D_{eq} = 0.5
	4065			2.505				7.5		1489	344	
	4066			2.437				6.6		1465	354	
	4067			2.354				5.4		1407	328	
	4068			2.257				4.1		1312	330	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-46. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 4/8/82

MODEL = 2 P_r = 3.121 V_j = 2409 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 214 T_T = 1716 °R $V_{a/c}$ = 400 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
4040		EW		2.589	.	13.753		8.7	.	.	.	RADIAL TRAVS. ON
4041					.				.	.	.	X/Deq = 8.7
	4069				8.892				1.26	378	56	
	4070				8.315				0.88	711	190	
	4071				7.990				0.67	1050	296	
	4072				6.961				0.00	2386	10.3	HISTO. MEASURED RADIALLY
	4073				7.224				0.17	2338	147	ON X/Deq = 8.7
	4074				7.508				0.38	1994	291	
	4075				7.774				0.53	1699	354	
4042				2.281	.			4.4	.	.	.	
4043				,	.			,	.	.	.	
4044				2.049	.			1.2	.	.	.	RADIAL TRAVS. ON
4045				,	.			,	.	.	.	X/Deq = 4.4, 1.2 AND 0.2,
4046				1.978	.			0.2	.	.	.	RESPECTIVELY
4047				,	.			,	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio
T_T = Total Temperature
V_j = Fully Expanded Jet Velocity
$V_{a/c}$ = Free Jet Velocity
D_{eq} = Equivalent Diameter
h = Annulus Height

TABLE 5-47. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 4/8/82

MODEL = 2 P_r = 3.312 V_j = 2455 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 222 T_T = 1707 °R $V_{a/c}$ = 400 Ft/Sec h = – In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		1.975	6.949	13.753	EXIT ON JET AXIS					
4048		AX		·				·	0	·	·	
4049				·				·	"	·	·	AX. TRAVS. ON Y/Deq = 0,
4050				·	7.746			·	0.52	·	·	AND 0.52, RESPECTIVELY
4051				·				·		·	·	
	4076			3.002				14.3		1292	327	
	4077			2.911				13.0		1332	318	
	4078			2.826				11.8		1365	333	
	4079			2.742				10.7		1429	326	
	4080			2.654				9.4		1508	345	HISTO. MEASURED AXIALLY
	4081			2.560				8.1		1554	364	ON r/Deq = 0.52
	4082			2.477				7.0		1582	384	
	4083			2.394				5.8		1495	386	
	4084			2.325				4.9		1430	368	
	4085			2.230				3.5		1367	358	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-47. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 4/8/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 2 P_r = 3.312 V_j = 2455 Ft/Sec D_{eq} = 5.09 In.

TEST POINT = 222 T_T = 1707 °R $V_{a/c}$ = 400 Ft/Sec h = - In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
4052		EW		1.978	.	13.753		0	.	.	.	
4053				"	.			"	.	.	.	
4054				2.049	.			1.0	.	.	.	
4055				"	.			"	.	.	.	RADIAL TRAVS. ON X/D_{eq}=0,
4056				2.281	.			4.3	.	.	.	1.0, 4.3 AND 8.5,
4057				"	.			"	.	.	.	RESPECTIVELY
4058				2.589	.			8.5	.	.	.	
4059				"	.			"	.	.	.	
	4086			NOT RECORDED				-	-	.	.	
	4087			2.589	8.104			8.5	0.75	868	249	
	4088				7.749				0.52	1381	358	
	4089				7.527				0.38	1973	326	HISTO. MEASURED RADIALLY
	4090				7.258				0.20	2342	180	ON X/D_{eq}=8.5
	4091				6.950				0.00	2411	101	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-48. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/13/81

MODEL = 3 P_r = 3.061 V_j = 2394 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 309 T_T = 1719 °R $V_{a/c}$ = 0 Ft/Sec h = 0.811 In.

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Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.696	0.874	6.888	13.660	PLUG TIP					
87		AX		·	↓	↓	·	·	0	·	·	AX. TRAVS. ON JET AXIS
88				·			·	·		·	·	
	227			1.052	6.907	13.714	·	2.2		2081	196	
	228			1.083			·	2.6		1986	214	HISTO. MEASURED AXIALLY
	229			1.105			·	2.9		2076	189	ON JET AXIS
	230			1.069	↓		·	2.4	↓	2014	205	
89				·	7.762		·	·	0.59	·	·	AX. TRAVS. ON r/D_{eq} = 0.59
90				·	"		·	·	↓	·	·	
91		SLANT AX	·	0.674	5.556		·	·	SLANT r'/h = 0.5	·	·	
92			·				·	·		·	·	SLANT AX. TRAVS
93			·				·	·		·	·	ON r'/h = 0.5
94		↓	·	↓	↓	↓	·	·	↓	·	·	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

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TABLE 5-49. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/13/81

MODEL = 3 P_r = 3.146 V_j = 2439 Ft/Sec D_{eq} = 5.67 in.

TEST POINT = 313 T_T = 1747 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 in.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
95		SLANT AX	·	0.670	5.568	13.718	·		SLANT r'/h = 0.5	·	·	
96			·		"		·		"	·	·	
97			·		5.663		·		1.0	·	·	
98			·		"		·		"	·	·	SLANT-AX. TRAVS. ON
99			·		5.772		·		1.5	·	·	r'/h = 0.5, 1.0, 1.5 AND 2.0,
100			·		"		·		"	·	·	RESPECTIVELY
101			·		5.855		·		2.0	·	·	
102			·		"		·		"	·	·	
103			·		5.568		·		0.5	·	·	
	231		1.029				0.0			2580	186	
	232		1.324				0.8			2528	106	
	233		1.560				1.45			2238	128	HISTO. MEASURED
	234		1.718				1.89			2168	111	SLANT-AXIALLY
	235		2.009				2.66			2327	84	ON r'/h = 0.5
	236		2.297				3.68			2469	104	
	237		2.669				4.5			2547	120	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-49. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/13/81

MODEL = 3 P_r = 3.146 V_j = 2439 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 313 T_T = 1767 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	238	SLANT AX	2.938	0.670	5.568	13.718	5.2		SLANT r'/h=0.5	2526	104	
	239		3.143				5.8			2437	112	HISTO. MEASURED
	240		3.401				6.5			2207	117	SLANT-AXIALLY
	241		3.571				7.0			2225	109	ON r'/h=0.5 (CONTINUED)
	242		3.850				7.7			2332	133	
	243		NOT RECORDED				-		·	-	-	
	244						-		·	-	-	
	245		2.207		5.772		6.0		SLANT r'/h=1.0	2210	214	
	246		2.927				8.0			2345	190	HISTO. MEASURED
	247		1.127				3.0			2167	321	SLANT-AXIALLY
	248		0.407				1.0			1981	323	ON r'/h=1.0
	249	AX		1.676	0.888		·	10.0	0	1712	336	
	250			1.515			-	8.0		2046	270	HISTO. MEASURED
	251			1.355			-	6.0		2209	252	AXIALLY ON JET AXIS
	252			1.195			-	4.0		2073	578	
	253			1.034			-	2.0		2064	204	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-49. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/13/81

MODEL = 3 P_r = 3.146 V_j = 2439 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 313 T_T = 1747 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
104		SLANT AX	-	0.677	5.689	13.718			SLANT r'/h=1.0			SLANT-AX. TRAVS. ON r'/h=1.0
105		AX		-	6.888				0			
106				-	6.888				"			AX. TRAVS. ON r/D_{eq}=0
107				-	7.744				0.5			AND 0.5, RESPECTIVELY
108				-								
	254	NOT RECORDED										
	255	AX		0.796				9.0		1323	386	
	256							7.0		1543	406	
	257							5.0		1783	423	HISTO. MEASURED AXIALLY
	258							3.0		1804	377	ON r/D_{eq} = 0.5
	259							2.0		1809	373	
	260							1.5		1803	373	
	261							1.0		1761	336	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TEST DATE 10/15/81

TABLE 5-49. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

MODEL = 3 P_r = 3.146 V_j = 2439 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 313 T_T = 1747 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.045	0.859	6.872	14.031	PLUG TIP					
109		EW		0.863	-			0	-	-	-	RADIAL TRAVS. ON $x/D_{eq}=0$
	262				6.216				0.40	2334	126	
	263				6.091				0.47	2306	182	HISTO. MEASURED RADIALLY
	264				5.931				0.56	1757	353	ON $x/D_{eq}=0$
	265				5.777				0.65	1043	333	
110				1.024	-			2.0	-	-	-	RADIAL TRAVS. ON $x/D_{eq}=2$
111				1.185	-			4.0	-	-	-	AND 4, RESPECTIVELY
	266				6.688				0.12	2270	200	
	267				6.456				0.25	2315	222	HISTO. MEASURED
	268				6.262				0.37	1876	677	RADIALLY ON $x/D_{eq}=4$
	269				"				"	-	-	
	270				"				"	1768	755	
	271				5.778				0.65	505	264	

NOMENCLATURE

P_r = Pressure Ratio

V_j = Fully Expanded Jet Velocity

D_{eq} = Equivalent Diameter

T_T = Total Temperature

$V_{a/c}$ = Free Jet Velocity

h = Annulus Height

TABLE 5-49. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 10/15/81

MODEL = 3 P_r = 3.146 V_j = 2439 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 313 T_T = 1747 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
112		EW		1.185	·	14.031		4.0	·	·	·	RADIAL TRAVS. ON X/D_{eq} = 4, 6, AND 8, RESPECTIVELY
113				"	·			"	·	·	·	
114				1.345	·			6.0	·	·	·	
115				1.505	·			8.0	·	·	·	
	272				5.446				0.84	834	345	HISTO. MEASURED RADIALLY ON X/D_{eq} = 8
	273				5.781				0.65	1178	413	
	274				6.243				0.38	1788	374	
	275				6.480				0.24	1987	314	
	276				6.807				0.05	2088	267	
116				1.665	-			10.0	-	-	-	RADIAL TRAVS. ON X/D_{eq} = 10

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-50. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/15/81

MODEL = 3 P_r = 3.320 V_j = 2476 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 321 T_T = 1733 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.045	0.869	6.884	13.677	PLUG TIP			.	.	
117		EW		0.872	-			0.0	-	.	.	RADIAL TRAVS. ON X/Deq = 0
	277				5.774				0.65	1084	362	
	278				5.930				0.56	1828	327	HISTO. MEASURED RADIALLY
	279				6.096				0.46	2315	169	ON X/Deq = 0
	280				6.218				0.39	2317	97	
	281				6.415				0.27	2216	122	
118				1.024	.			2.0		.	.	RADIAL TRAVS. ON
119				1.185	.			4.0		.	.	X/Deq = 2 AND 4, RESPECTIVELY
	282				6.685				0.12	2258	215	
	283				6.457				0.25	2356	205	HISTO. MEASURED RADIALLY
	284				6.266				0.36	2152	316	ON X/Deq = 4
	285				5.935				0.56	1299	429	
	286				5.770				0.65	980	394	
120					.			4.0	.	.	.	REPEAT OF G-119
121					.			4.0	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-50. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/15/81

MODEL = 3 P_r = 3.320 V_j = 2476 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 321 T_T = 1733 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
122		EW		1.345	.	13.677		6.0	.	.	.	RADIAL TRAVS. ON
123				1.505	.			8.0	.	.	.	X/Deq = 6 AND 8, RESPECTIVELY
	287			.	6.805				0.05	2184	242	
	288			.	6.477				0.24	2079	299	
	289			.	6.245				0.37	1829	379	HISTO. MEASURED RADIALLY
	290			.	5.785				0.57	1193	431	ON X/Deq = 8
	291			.	5.446				0.84	826	337	
124				1.665	.			10.0	.	.	.	RADIAL TRAVS. ON X/Deq = 10
125		AX		-	6.887			-	0	.	.	AX. TRAVS. ON JET AXIS
	292			1.665				10.0		1926	358	
	293			1.674				10.0		1928	322	HISTO. MEASURED
	294			1.516				8.0		2193	265	AXIALLY ON JET AXIS
	295			1.353				6.0		2212	181	
	296			1.193				4.0		2148	198	
	297			1.035				2.0		2074	170	
126				-				.		.	.	AX. TRAVS. ON JET AXIS
127				.				.		.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-50. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/15/81

MODEL = 3 P_r = 3.320 V_j = 2476 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 321 T_T = 1733 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
128		AX		-	7.744	13.677		-	0.5	.	.	AX TRAVS. ON $r/D_{eq}=0.5$
129				-				.		.	.	
	298			0.876				0.0		2161	275	
	299			1.034				2.0		1836	321	HISTO. MEASURED
	300			1.193				4.0		1778	388	AXIALLY ON $r/D_{eq}=0.5$
	301			1.355				6.0		1594	432	
	302			1.519				8.0		1441	405	
	303			1.676				12.0		1275	394	
130				-	7.744			-	0.5	.	.	AX. TRAVS. ON $r/D_{eq}=0.5$
		REF	0.045	0.682	5.669	13.678	EAST EDGE OF CORE EXIT			.	.	
131		SLANT AX		NOT RECORDED			.			.	.	
132			-		5.556		.		SLANT $r'/h=0.5$	.	.	SLANT AX TRAVS. ON $r'/h=0.5$
133			-				.			.	.	
	304		4.779				13.0			2535	132	
	305		4.431				12.0			2484	139	HISTO. MEASURED SLANT-AXIALLY
	306		4.034				11.0			2368	116	ON $r'/h=0.5$

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-50. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/15/81

MODEL = 3 P_r = 3.320 V_j = 2476 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 321 T_T = 1733 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	307	SLANT AX	3.622	0.682	5.556	13.678	9.8		SLANT r'/h=0.5	2246	128	
	308		3.371				9.1			2408	140	
	309		3.140				8.5			2550	176	
	310		2.804				7.5			2577	144	
	311		2.478				6.7			2520	164	HISTO. MEASURED SLANT-AXIALLY
	312		2.182				5.8			2417	116	ON r'/h=0.5 (CONTINUED)
	313		1.807				4.8			2211	122	
	314		1.454				3.9			2401	495	
	315		0.973				2.5			2545	247	
	316		0.910				2.4			2542	211	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-50. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 10/15/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 3 P_r = 3.320 V_j = 2476 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 321 T_T = 1733 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.045	0.682	5.669	13.678	EAST EDGE OF CORE EXT			.	.	
134		SLANTAX	.		5.664		.		SLANT r'/h=1.0	.	.	SLANT AX. TRAVS.
135			.				.			.	.	ON r'/h=1.0
	317		2.927				7.9			2479	161	
	318		2.207				5.9			2316	190	HISTO. MEASURED
	319		1.129				2.9			2281	328	SLANT-AXIALLY
	320		1.256				3.3			2303	286	ON r'/h=1.0
	321		0.407				1.0			2325	107	
136					5.772				SLANT r'/h=1.5	.	.	SLANT AX. TRAVS.
137					"				"	.	.	ON r'/h=1.5

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-51. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/15/81

MODEL = 3 P_r = 3.239 V_j = 1734 Ft/Sec D_{eq} = 5.67 in.

TEST POINT = 1313 T_T = 877 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 in.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.045	0.676	5.631	13.678	EAST EDGE OF		CORE EXIT			
138		AX SLANT		↓	5.510	↓	.	.	SLANT r'/h=0.5	.	.	
139		↓			〃		.	.	↓	.	.	SLANT AX. TRAVS.
140					5.631		.	.	r'/h=1.0	.	.	ON r'/h=0.5 AND 1.0,
141		↓		↓	〃	↓	.	.	↓	.	.	RESPECTIVELY
		REF		0.870	6.845	13.727	PLUG TIP		.	.	.	
142		AX	/	-	↓	↓	/	.	0	.	.	
143		↓	/	-	↓		/	.	〃	.	.	AX. TRAVS. ON r/D_{eq}=0
144			/	-	7.701		/	.	0.5	.	.	AND 0.5, RESPECTIVELY
145		↓	/	.	〃	↓	/	.	〃	.	.	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TEST DATE 10/16/81

TABLE 5-52. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

MODEL = 3 P_r = 3.136 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 314 T_T = 1713 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		0.863	6.895	13.694	PLUG	TIP				
146		AX		.				.	0	.	.	AX. TRAVS. ON JET AXIS
147				.				.		.	.	
	322			1.665				10.0		1980	313	
	323			1.505				8.0		2165	221	
	324			1.295				5.4		2213	173	HISTO. MEASURED AXIALLY
	325			1.345				6.0		2107	535	ON JET AXIS
	326			1.085				2.7		2076	168	
	327			1.185				4.0		2189	179	
	328			1.035				2.1		2063	188	
148				.	7.751			.	0.5	.	.	AX. TRAVS. ON r/D_{eq} = 0.5
149				.				.		.	.	
	329			0.864				0		2148	226	
	330			0.904				0.5		1788	283	HISTO. MEASURED ON
	331			1.024				2.0		1873	298	r/D_{eq} = 0.5
	332			1.185				4.0		1884	354	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-52. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/16/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 3 P_r = 3.136 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 314 T_T = 1713 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	333	AX		1.505	7.751	13.694		8.0	0.5	1528	339	HISTO. MEASURED AXIALLY
	334	↓		1.345	↓	↓		6.0	↓	1705	339	ON x/D_{eq}=0.5 (CONTINUED)
	335	↓		1.665	↓	↓		10.0	↓	1390	345	
150		EW		〃	-			10.0	-	.	.	RADIAL TRAVS. ON x/D_{eq} = 8
151		↓		1.505	-			8.0	-	.	.	AND 10, RESPECTIVELY
	336	↓		↓	6.815			↓	0.05	2192	224	
	337	↓		↓	6.489			↓	0.24	2004	301	
	338	↓		↓	6.255			↓	0.37	1795	361	HISTO. MEASURED RADIALLY
	339	↓		↓	5.795			↓	0.64	1117	324	ON x/D_{eq} = 8
	340	↓		↓	5.456			↓	0.84	772	266	
	341	↓		↓	5.040			↓	1.09	511	150	
	342	↓		↓	3.719			↓	1.86	382	25	
152		↓		1.345	-			6.0	-	.	.	RADIAL TRAVS. ON x/D_{eq} = 6.0
153		↓		1.185	-			4.0	-	.	.	AND 4.0, RESPECTIVELY
	343	↓		↓	5.085			↓	1.06	344	39	HISTO. MEASURED RADIALLY
	344	↓		↓	5.760	↓		↓	0.66	811	277	ON x/D_{eq} = 4.0

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-52. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/16/81

MODEL = 3 P_r = 3.136 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 314 T_T = 1713 °R $V_{a/c}$ = 400 Ft/Sec   h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	345	EW		1.185	5.945	13.694		4.0	0.56	1189	358	
	346				6.269				0.37	2059	331	HISTO. MEASURED RADIALLY
	347				6.481				0.24	2340	180	ON x/D_{eq} = 4.0 (CONTINUED)
	348				6.694				0.12	2250	178	
	349			1.024	3.682			2.0	0.19	381	18	HISTO. MEASURED AT x/D_{eq} = 2, r/D_{eq} = 1.
154				"	-			"	-	-	.	RADIAL TRANS. ON x/D_{eq} = 2.0
155				0.867	.			0.0	-	-	.	AND 0.0, RESPECTIVELY
	350				3.670				1.89	373	22	
	351				5.391				0.88	774	39	
	352				5.787				0.65	930	286	
	353				5.940				0.56	1741	338	HISTO. MEASURED RADIALLY
	354				6.104				0.46	2315	144	ON x/D_{eq} = 0.0
	355				6.228				0.39	2349	99	
	356				6.422				0.28	2345	106	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity   h = Annulus Height

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TABLE 5-52. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/16/81

MODEL = 3 P_r = 3.136 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 314 T_T = 1713 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.044	0.670	5.656	13.297	CETER OF ANNULUS		HEIGHT AT	CORE EXIT		
156		SLANT AX	-		5.656		-		SLANT r'/h=0.5	-	-	SLANT AX. TRAVS.
157			-				-			-		ON r'/h=0.5
	357		0.916				2.39			2951	151	
	358		1.338				3.54			2466	96	
	359		1.644				4.38			2157	121	
	360		1.955				5.23			2329	93	
	361		2.300				6.18			2517	136	
	362		2.630				7.08			2573	98	HISTO MEASURED SLANT-
	363		2.895				7.80			2472	450	AXIALLY ON r'/h=0.5
	364		3.105				8.38			2352	169	
	365		3.308				8.93			2161	123	
	366		3.696				10.0			2280	116	
	367		4.037				10.9			2447	100	
	368		4.408				11.9			2527	96	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-52. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 10/16/81

MODEL = 3 P_r = 3.136 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 314 T_T = 1713 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
158		SLANT AX	-	0.670	5.765	13.297	.		SLANT r'/h=1.0	.	.	SLANT AX. TRAVS
159			-				.			.	.	ON r'/h=1.0
	369		2.924				7.87			2481	308	
	370		2.204				5.90			2398	129	HISTO. MEASURED SLANT-
	371		2.960				2.96			2501	163	AXIALLY ON r'/h=1.0
	372		0.980				0.98			2312	164	
160			.		5.895		.		r'/h=1.55	.	.	
161			.		"		.		"	.	.	SLANT AX. TRAVS.
162			.		5.564		.		r'/h=0.43	.	.	ON r'/h=1.55 AND 0.43, RESPECTIVELY
163			.				.			.	.	
	373		3.319				8.96			2113	194	HISTO. MEASURED SLANT-AXIALLY
	374		2.570				6.91			2535	96	ON r'/h=0.43

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-53. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/16/81

MODEL = 3 P_r = 3.353 V_j = 2484 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 322 T_T = 1719 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.044		5.658	13.297	MIDPOINT OF ANNULUS HEIGHT AT EXIT					
165		SLANT AX	-						SLANT r'/h=0.5	.	.	SLANT AX. TRAVS. ON r'/h=0.5
166			-							.	.	
	375		4.911				13.3			2598	107	
	376		4.467				12.1			2529	101	
	377		4.084				11.0			2354	92	
	378		3.653				9.86			2163	112	
	379		3.358				9.05			2479	121	HISTO. MEASURED SLANT-AXIALLY
	380		3.133				8.44			2626	100	ON r'/h=0.5
	381		2.884				7.75			2712	98	
	382		2.800				7.53			2645	98	
	383		2.403				6.45			2525	111	
	384		2.010				5.36			2286	94	
	38[illegible]		1.691				4.49			2103	313	
	38[illegible]		1.451				3.83			2555	100	
	38[illegible]		1.111				2.92			2512	734	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-53. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/16/81

MODEL = 3 P_r = 3.353 V_j = 2484 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 322 T_T = 1719 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
167		SLANT AX	-		5.764	13.297	.		SLANT r'/h=1.0	.	.	SLANT AX. TRAVS
168			-				.			.	.	ON r'/h=1.0
	388		2.925				7.86			2559	128	
	389		2.204				5.89			2392	117	HISTO. MEASURED SLANT-AXIALLY
	390		1.129				2.95			2449	277	ON r'/h=1.0
	391		0.402				0.97			2093	368	
169		AX	NOT RECORDED				.	.	.	.	.	
170			-	0.862	6.882		.	.	0	.	.	AX. TRAVS. ON JET AXIS
171		NOT RECORDED		.	.		.	.	.	.	.	
172				.	.		.	.	.	.	.	
		REF	-	0.862	6.882	13.297	PLUG TIP	.	.	.	.	
173		NOT RECORDED		.	.	.	.	.	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-53. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/20/81

MODEL = 3 P_r = 3.353 V_j = 2484 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 322 T_T = 1719 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		0.860	6.870	13.694	PLUG TIP					
174		AX		-	6.917			.	0	.	.	
175				-				.		.	.	AX. TRAVS. ON JET AXIS
176				-				.		.	.	
177				-				.		.	.	
	393			1.660				10.0		2035	289	
	394			1.500				8.0		2282	272	HISTO. MEASURED AXIALLY
	395			1.340				6.0		2413	174	ON JET AXIS
	396			1.180				4.0		2275	182	
	397			1.019				2.0		1919	171	
178				.	7.773			.	0.5	.	.	AX. TRAVS. ON $r/D_{eq}=0.5$
179				.				.		.	.	
	398			1.660				10.0		1482	330	
	399			1.500				8.0		1567	354	HISTO. MEASURED AXIALLY
	400			1.340				6.0		1725	362	ON $r/D_{eq}=0.5$
	401			1.180				4.0		2009	342	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-53. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/20/81

MODEL = 3 P_r = 3.353 V_j = 2484 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 322 T_T = 1719 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	402	AX		1.019	7.773	13.694		2.0	0.5	1966	289	
	403			0.899				0.5		1965	287	HISTO. MEASURED AXIALLY
	404		NOT RECORDED					-		-	-	ON x/D_{eq}=0.5 (CONTINUED)
	405			0.860				0		2295	188	
180			NOT RECORDED		.			-		-	-	
	406				.			-		-	.	
181		EW		0.860	.			0	-	.	.	RADIAL TRAVS. ON
	407				5.350				0.92	277	73	x/D_{eq}=0
	408				5.762				0.67	887	311	
	409		NOT RECORDED		5.925				-	-	-	HISTO. MEASURED RADIALLY
	410				5.925				0.58	1646	312	ON x/D_{eq}=0
	411				6.088				0.48	2314	199	
	412				6.210				0.41	2246	115	
	413				6.378				0.31	2137	143	
	414		NOT RECORDED		6.404				.	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-53. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/20/81

MODEL = 3 P_r = 3.353 V_j = 2484 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 322 T_T = 1719 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
182		EW		1.021	-	13.694		2	-	.	.	RADIAL TRAVS. ON x/D_{eq} = 2
183				1.182	-			4	-	.	.	AND 4, RESPECTIVELY
	415				3.823				1.81	384	27	
	416	NOT RECORDED			-				-	-	-	
	417				6.679				0.14	2326	316	HISTO. MEASURED RADIALLY
	418				6.465				0.26	2359	425	ON x/D_{eq} = 4
	419				6.080				0.49	1720	380	
	420				5.534				0.81	646	215	
	421				4.969				1.14	353	35	
184				1.342	-			6	.	.	.	RADIAL TRAVS. ON x/D_{eq} = 6,
185				1.662	.			10	.	.	.	10 AND 8, RESPECTIVELY
186				1.502	.			8	.	.	.	
	422				3.162				2.20	382	84	
	423				6.788				0.08	2206	216	HISTO. MEASURED RADIALLY
	424				6.489				0.25	2097	315	ON x/D_{eq} = 8
	425				6.265				0.38	-	-	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-53. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 10/20/81

MODEL = 3 P_r = 3.353 V_j = 2484 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 322 T_T = 1719 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	426	EW	·	1.502		13.694	-	8	0.38	1929	307	HISTO. MEASURED RADIALLY
	427	↓	·	↓	5.803	↓	·	↓	0.65	1259	359	ON X/D_{eq} = 8 (CONTINUED)
	428	↓	·	↓	5.466	↓	·	↓	0.85	834	264	
	429	NOT RECORDED		·	·	·	·	·	·	·	·	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-54. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/22/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.025 V_j = 2392 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 407 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.066	0.716	5.482	13.692	MID POINT OF ANNULUS HEIGHT AT CORE EXIT					
205		SLANT AX	-	"	"	"	-	-	SLANT r'/h = 0.5	-	-	SLANT AX. TRAVS
206		"	-	"	"	"	-	-	"	-	-	ON r'/h = 0.5

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-59. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/26/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.025 V_j = 2392 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 407 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	-	0.826	6.895	13.647	PLUG TIP					
227		AX	·	·	↓	↓	·	·	0	·	·	AX. TRAVS. ON JET AXIS
228		↓	·	·	↓	↓	·	·	↓	·	·	

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

TABLE 5-55. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/22/81

MODEL = 4 P_r = 3.069 V_j = 2405 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 411 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.066	0.716	5.482	13.692	MID POINT OF ANNULUS HEIGHT AT CORE EXIT					
209		SLANT AX	-	↓	↓	↓	.	:	SLANT r'/h=0.5	.	.	SLANT-AX. TRAVS.
210		"	-				.	:	"	.	.	ON r'/h=0.5

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

TABLE 5-55 AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/26/81

MODEL = 4 P_r = 3.069 V_j = 2405 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 411 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	·	0.826	6.895	13.647	PLUG TIP					
225		AX	·	·	↓	↓	·	·	0	·	·	AX. TRAVS. ON JET AXIS
226		↓	·	·			·	·	↓	·	·	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-56. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/22/81

MODEL = 4 P_r = 3.108 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 413 T_T = 1723 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		0.858	6.897	13.692	PLUG TIP					
187		AX		-	6.897			.	0	.	.	AX. TRAVS. ON JET AXIS
188				-				.		.	.	
	430			1.664				10.1		1826	312	
	431			"				"		-	-	
	432			1.503				8.1		2093	280	HISTO. MEASURED AXIALLY
	433			1.342				6.0		-	-	ON JET AXIS
	434			"				"		2159	440	
	435			1.183				4.1		-	-	
	436			"				"		2069	488	
	437			1.022				2.0		2012	187	
189				.	7.753			.	0.5	.	.	AX. TRAVS. ON r/D_{eq}=0.5
190				.	"			.		.	.	
	438			0.826				.		.	.	
	439				NOT RECORDED.		REPEATED	447-	455	.	.	
	440									.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-56. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/22/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.108 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 413 T_T = 1723 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	441											
	442											
	443		NOT RECORDED. (REPEATED 447-455)									
	444											
	445											
	446											
	447	AX		0.867	7.753	13.692		0.11	0.5			
	448			0.902				0.55				
	449			1.022				2.05				
	450			"				"				HISTO. MEASURED AXIALLY
	451			1.183				4.06				ON r/D_{eq} = 0.5
	452			"				"				(REPEAT OF 839-446)
	453			1.343				6.05				
	454			1.503				8.05				
	455			1.663				10.05				

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Ve[illegible]ity h = Annulus Height

TABLE 5-56. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/22/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.108 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 413 T_T = 1723 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
191				.	.	.		.	.	.	.	REPEAT OF G-187 AND G-188
192				.	.	.		.	.	.	.	
193				.	.	.		.	.	.	.	REPEAT OF G-189 AND G-190
194				.	.	.		.	.	.	.	
195		EW		1.673	-	13.692		10.2	.	.	.	RADIAL TRAVS. ON x/D_{eq}=10.2
	456		NOT RECORDED		.			.		.	.	
196				1.575	.			8.2	.	.	.	RADIAL TRAVS. ON x/D_{eq}=8.2
	457				6.813				-0.05	2088	266	
	458				6.491				-0.24	1970	295	HISTO. MEASURED RADIALLY
	459				6.252				-0.38	1751	353	ON x/D_{eq} = 8.2
	460				5.795				-0.65	1196	373	
	461				5.461				-0.84	878	326	
197				1.355	.			6.2	.	.	.	RADIAL TRAVS. ON x/D_{eq}=6.2
	462			NOT RECORDED				-	.	.	.	AND 4.2 RESPECTIVELY
198				1.195	.			4.2	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-56. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/22/81

MODEL = 4 P_r = 3.108 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 413 T_T = 1723 °R $V_{a/c}$ = 0 Ft/Sec   h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	463	EW		1.195	5.758	13.692		4.2	0.67	968	328	
	464				6.695				0.12	2220	170	HISTO. MEASURED RADIALLY
	465				6.481				0.24	2292	170	ON X/D_{eq} = 4.2
	466				6.270				0.37	2100	300	
	467				6.946				0.03	1298	433	
199				1.034	-			2.2		-	-	RADIAL TRAVS. ON X/D_{eq} = 2.2
200				0.877	-			0.2		-	-	AND 0.2, RESPECTIVELY
	468				6.422				0.28	2201	420	
	469				6.228				0.39	2270	456	
	470				6.425				0.28	2344	82	
	471				-				-	-	-	HISTO. MEASURED RADIALLY
	472				6.107				0.46	2328	114	ON X/D_{eq} = 0.2
	473				5.940				0.56	1798	329	
	474								-	-	-	
	475								-	-	-	
	476				6.182				0.42	2329	323	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-56. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/22/81

MODEL = 4 P_r = 3.108 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 413 T_T = 1723 °R $V_{a/c}$ = 0 Ft/Sec   h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.066	0.716	5.740	13.672	MIDDLE POINT OF ANNULUS HEIGHT AT CORE EXIT					
201		SLANT AX					·		SLANT r'/h=0.5	·	·	SLANT-AX. TRAVS
202							·			·	·	ON r'/h=0.5
	477		4.566				12.3			2354	263	
	478		4.247				11.4			2304	391	
	479		3.693				9.9			2388	64	HISTO. MEASURED
	480		3.335				8.9			2409	118	SLANT-AXIALLY ON r'/h=0.5
	481		2.843				7.6			2424	60	
	482		2.371				6.3			2406	93	
	483		2.041				5.4			2376	62	
	484		1.716				4.5			-	-	
	485		1.426				3.7			2413	65	
	48[illegible]		1.717				4.5			2373	64	
203			·		5.602		-		r'/h=1.0	·	·	SLANT-AX TRAVS.
204			·		"		-		"	·	·	ON r'/h=1.0

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity   h = Annulus Height

TABLE 5-56. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 10/22/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.108 V_j = 2411 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 413 T_T = 1723 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	487	SLANT AX	3.570	0.716	5.602	13.672	9.6		SLANT r/h=1.0	2385	73	
	488		2.986				8.0			2382	95	HISTO. MEASURED
	489		2.257				6.0			2351	101	SLANT-AXIALLY ON r/h=1.0
	490		1.160				3.0			2300	177	(CONTINUED)
	491		0.430				1.0			2203	189	
	492	NOT RECORDED		.	.	.	.		.	.	.	
	⟆			.	.	.	.		.	.	.	
	496			.	.	.	.		.	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-57. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/27/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.122 V_j = 2426 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 414 T_T = 1739 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REP		0.858	6.895	13.647	PLUG TIP					
229		AX		-	6.895			.	0	.	.	AX. TRAVS. ON JET AXIS
230				-				.		.	.	
	550			1.654				10		1976	409	
	551									-	-	
	552			↓				↓		-	-	
	553			1.498				8		-	-	
	554			↓				↓		2187	184	
	555			1.338				6		2242	130	HISTO. MEASURED AXIALLY
	556			1.258				5		2222	136	ON JET AXIS
	557			1.178				4		2169	130	
	558			1.098				3		2098	147	
	559			1.018				2		1969	170	
	560			↓				↓		2003	154	
	561	↓		0.938	↓	↓		1	↓	1765	196	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TABLE 5-57. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/27/81

MODEL = 4 P_r = 3.122 V_j = 2426 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 44 T_T = 1739 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
231		AX		-	7.751	13.647		-	0.5	-	-	AX. TRAVS. ON r/D_{eq}=0.5
232				-				-		-	-	
	562			0.866				0.1		2279	130	
	563			0.898				0.5		2053	294	
	564			0.938				1		2025	249	
	565			1.018				2		2057	261	
	566			1.098				3		-	-	HISTO. MEASURED AXIALLY
	567			"				"		2028	268	ON r/D_{eq}=0.5
	568			1.178				4		1980	297	
	569			1.258				5		1870	335	
	570			1.338				6		1770	333	
	571			1.498				8		1568	342	
	572			1.658				10		1440	376	
233		EW		1.658	-			10	-	-	-	RADIAL TRAVS. ON x/D_{eq}=10
234				1.498	-			8	-	-	-	AND 8, RESPECTIVELY

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-57. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/27/81

MODEL = 4 P_r = 3.122 V_j = 2426 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 414 T_T = 1739 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	573	EW		1.498	3.716	13.647		8	1.86	393	52	
	574				5.034				1.01	480	150	
	575				6.817				0.05	2161	194	HISTO. MEASURED RADIALLY
	576				6.498				0.24	2038	245	ON X/Deq = 8
	577				6.255				0.37	1769	343	
	578				5.795				0.64	1108	334	
	579				5.476				0.83	743	218	
235				1.338	-			6	-	-	-	RADIAL TRANS. ON X/Deq = 4
236				1.178	-			4	-	-		AND 6, RESPECTIVELY
	580				5.225				1.0	354	40	
	581				5.764				0.66	734	219	
	582				5.945				0.56	1020	306	HISTO. MEASURED RADIALLY
	583				6.264				0.37	1992	331	ON X/Deq = 4
	584				6.479				0.24	-	-	
	585				[illegible]				[illegible]	2318	158	
	586				6.892				0.12	2271	159	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-57. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/27/81

MODEL = 4 P_r = 3.122 V_j = 2426 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 414 T_T = 1739 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	587	EW		1.178	6.892	13.647		4	0.0	2161	140	HISTO. MEASURED RADIALLY ON X/D_{eq}=4
237				1.018	-			2	-	.	.	RADIAL TRAVS. ON X/D_{eq} = 2
238				0.866	-			0.1	-	.	.	AND 0.1, RESPECTIVELY
	588				3.666				1.89	368	114	
	589				5.609				0.75	273	58	
	590				6.419				0.28	2286	73	HISTO. MEASURED RADIALLY
	591				6.419				0.28	2285	85	ON X/D_{eq}=0.1
	592				6.294				0.35	2324	125	
	593				5.997				0.53	-	-	
	594				5.997				0.53	1688	317	
239				0.792	-			-0.82	-	-	-	RADIAL TRAVS. ON X/D_{eq}=-0.82
	595				3.005				2.28	351	-	HISTO. MEASURED RADIALLY
	596				3.005				2.28	389	12	ON X/D_{eq}=-0.82

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-57 AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/28/81

MODEL = 4 P_r = 3.122 V_j = 2426 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 414 T_T = 1739 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.069		5.631	13.285	CORE EXIT EDGE					
240		NE	0.069		5.528	-	0	-	SLANT r'/h=0.42	-	-	CHORDWISE TRAVS ON r'/h=0.42
241		EW	-		-	13.285	-	-1.68	-	-	-	AT x'/h=0 RADIAL TRAVS. ON x/D_{eq}=
242		SLANT AX	-		5.631		-	-	SLANT r'/h=1.0	-	-	SLANT-AX. TRAVS. ON r'/h=1.0
	597		3.570				9.58	-		-	-	
	598		"				"	-		2348	82	HISTO. MEASURED
	599		2.980				7.97	-		2350	92	SLANT-AXIALLY ON
	600		2.257				5.99	-		2311	111	r'/h=1.0
	601		1.160				2.99	-		2230	147	
	602	↓	0.430		↓	↓	1.00	-	↓	2166	186	
243		EW	0.121		-		-	-1.58	-	-	-	RADIAL TRAVS. ON x/D_{eq} = -1.6
244		SLANT AX	-		5.461		-	-	SLANT r'/h=0.5	-	-	SLANT-AX. TRAVS. ON r'/h=0.5
245		SLANT AX	-		"		-	-	"	-	-	
246			-		5.631		-	-	r'/h=1.0	-	-	SLANT-AX. TRAVS. ON r'/h=1.0
	603		3.410		5.461		9.15	-	r'/h=0.5	2340	115	HISTO. MEASURED SLANT-AXIALLY
	604	↓	2.850		"	↓	7.61	-	↓	2354	101	ON r'/h=0.5

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-57. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 10/28/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.122 V_j = 2426 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 414 T_T = 1739 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	605	SLANT-AX	2.000		5.461	13.285	5.29		SLANT r'/h=0.5	2347	117	
	606		1.650				4.33			-	-	HISTO MEASURED SLANT-AXIALLY
	607		"				"			2335	112	ON r'/h=0.5 (CONTINUED)
	608		1.202				3.10			2337	126	
247			-		5.799		-		r'/h=1.5	-	-	
248			-		"		-		"	-	-	SLANT-AX. TRAVS. ON
249			-		6.098		-		r'/h=2.5	-	-	r'/h=1.5, 2.5 AND 2.0,
250			-		"		-		"	-	-	RESPECTIVELY
251			-		5.959		-		r'/h=2.0	-	-	
252			-		"		-		"	-	-	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

ORIGINAL PAGE IS OF POOR QUALITY

TABLE 5-58. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/22/81

MODEL = 4 P_r = 3.214 V_j = 2416 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 419 T_T = 1689 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.066	0.716	5.482	13.692	MID POINT OF ANNULUS HEIGHT AT CORE EXIT					
207		SLANT AX	-	"	"	"	-	-	SLANT r'/h=0.5	-	-	SLANT-AX. TRAVS.
208		"	-	"	"	"	-	-	"	-	-	ON r'/h = 0.5

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-59. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/22/81

MODEL = 4 P_r = 3.299 V_j = 2474 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 421 T_T = 1738 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.060	0.717	5.482	13.692	MID POINT OF ANNULUS HEIGHT AT CORE EXIT					
211		SLANT AX	-		5.632		-		SLANT r'/h=1.0	.	.	SLANT-AX TRAVS.
212			-				.			.		ON r'/h=1.0
	497		2.982				8.0			2388	72	
	498		2.257				6.0			2396	105	HISTO. MEASURED
	499		1.156				3.0			2347	167	SLANT-AXIALLY
	500		0.427				1.0			2200	216	ON r'/h=1.0
213			-		5.482		.		r'/h=0.5	.	.	SLANT-AX TRAVS.
214			.				.			.	.	ON r'/h=0.5
	501		4.407				11.9			2377	78	
	502		4.032				10.9			2429	75	
	503		3.772				10.2			2469	72	HISTO. MEASURED
	504		3.410				9.2			2488	74	SLANT-AXIALLY
	505		3.132				8.4			2475	121	ON r'/h=0.5
	506		2.848				7.6			2454	113	
	507		2.609				7.0			2440	88	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-59. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/22/82

MODEL = 4 P_r = 3.299 V_j = 2474 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 421 T_T = 1738 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	508	SLANT AX	2.327	0.717	5.482	13.692	6.21		SLANT r'/h=0.5	2418	109	
	509		1.994				5.29			2419	82	HISTO. MEASURED
	510		1.649				4.35			2442	100	SLANT-AXIALLY ON r'/h=0.5
	511		1.202				3.13			2463	123	(CONTINUED)
		RBF		0.826	6.895	13.647	PLUG TIP					
215		AX		-	6.895				0			AX. TRAVS. ON JET AXIS
216				-								
	512			NOT RECORDED								
	513			1.626				10		1955	285	
	514			1.466				8		2198	211	
	515			1.306				6		-	-	
	516			1.226				5		2313	148	HISTO. MEASURED AXIALLY
	517			1.146				4		2282	169	ON JET AXIS
	518			-				-		-	-	
	519			1.066				3		2123	161	
	520			0.986				2		1991	179	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-59. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/26/81

MODEL = 4 P_r = 3.299 V_j = 2674 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 421 T_T = 1738 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
217		AX		-	7.752	13.647		-	0.5	.	.	AX. TRAVS. ON r/D_{eq} = 0.5
218				-				-		.	.	
	521			1.626				10		1372	383	
	522			1.466				8		1451	389	
	523			1.306				6		1660	402	
	524			1.226				5		1797	399	
	525			1.146				4		1857	379	
	526			1.066				3		-	-	HISTO. MEASURED AXIALLY
	527		NOT RECORDED					-		-	-	ON r/D_{eq} = 0.5
	528			0.988				2		1832	330	
	529			0.868				0.5		1925	300	
	530			0.909				1		-	-	
	531		NOT RECORDED					-		-	-	
	532			0.833				0.1		2252	221	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-59. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/26/81

MODEL = 4 P_r = 3.299 V_j = 2474 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 421 T_T = 1738 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
219		EW		0.833	-	13.647		0.1	-	.		RADIAL TRAVS. ON X/Deq = 0.1
	533				6.422				0.28	2288	135	
	534				6.208				-	-	-	
	535				6.208				0.40	2321	77	HISTO. MEASURED RADIALLY
	536				6.104				0.46	2311	122	ON X/Deq = 0.1
	537				5.942				0.56	1779	308	
	538				6.316				0.34	2310	90	
220				0.986	-			2	-	-	-	RADIAL TRAVS. ON X/Deq = 2
221				1.146	-			4	-	-	-	AND 4, RESPECTIVELY
	539				5.949				0.55	1393	401	
	540				6.268				0.37	2234	268	HISTO. MEASURED RADIALLY
	541				6.481				0.24	2410	164	ON X/Deq = 4
	542				6.694				0.12	2284	174	
222				1.306	-			6	-	-	-	RADIAL TRAVS. ON X/Deq = 6
	543				5.456				0.84	767	312	HISTO. MEASURED RADIALLY
	544				5.793				0.65	-	-	ON X/Deq = 6

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

TABLE 5-59. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 10/26/81

MODEL = 4 P_r = 3.299 V_j = 2474 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 421 T_T = 1738 °R $V_{a/c}$ = 0 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
223		EW		1.466	-	13.647		8	-	-	-	RADIAL TRAVS. ON X/Deq = 8
	545				5.793				0.65	1241	392	
	546				5.546				0.79	860	345	HISTO. MEASURED RADIALLY
	547				6.255				0.37	1838	342	ON X/Deq = 8
	548				6.493				0.24	2045	288	
	549				6.812				0.05	2192	241	
224				1.626	-			10	-	-	-	RADIAL TRAVS. ON X/Deq = 10

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-62.* AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 10/28/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.329 V_j = 2479 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 422 T_T = 1733 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.065	0.708	5.488	13.285	MID POINT OF ANNULUS HEIGHT AT CORE EXIT					
253		SLANT AX	-		5.488		-		SLANT r'/h=0.5	.	.	SLANT-AX. TRAVS
254			-				-			.	.	ON r'/h=0.5
	609		4.407				11.89			2351	87	
	610		4.032				10.86			2365	99	
	611		3.722				10.00			2439	68	
	612		3.410				9.16			2439	82	
	613		2.850				7.62			2424	109	HISTO. MEASURED SLANT-AXIALLY
	614		2.610				6.97			2397	113	ON r'/h=0.5
	615		2.327				6.19			2392	91	
	616		1.996				5.29			2377	118	
	617		1.650				4.34			2395	180	
	618		1.202				3.11			2422	140	
255			-		5.659		-		r'/h=1.0	-	-	SLANT-AX. TRAVS.
256			-		"		-		;	-	-	ON r'/h=1.0

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

* THERE ARE NO TABLES NUMBERED 5-60 AND 5-61.

TABLE 5-62. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/28/81

MODEL = 4 P_r = 3.329 V_j = 2479 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 422 T_T = 1733 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	619	SLANT AX	2.983	0.708	5.659	13.285	7.99		SLANT r'/h=1.0	2363	106	
	620		2.267				5.97			2324	116	
	621		2.257				6.00			2317	118	HISTO. MEASURED SLANT-AXIALLY
	622		1.156				2.99			-	-	ON r'/h=1.0
	623		"				"			2256	183	
	624		0.427				1.00			1891	263	
257			-		5.805				r'/h=1.5	-	-	
258			-		"				"	-	-	SLANT-AX. TRAVS. ON
259			-		5.950				r'/h=2.0	-	-	r'/h=1.5 AND 2.0, RESPECTIVELY
260			-		"				"	-	-	
		REF	0.065	0.708	5.489	13.285	MID POINT OF ANNULUS HEIGHT AT EXIT					
		REF	-	0.867	6.893	13.285	PLUG TIP			-	-	
261		AX		-			-	-	0	-	-	AX. TRAVS. ON JET AXIS
262				-			-	-		-	-	
	625			0.939			-	-		-	-	HISTO. MEASURED AXIALLY
	626			1.018			-	-		-	-	ON JET AXIS

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-62. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 10/28/81

MODEL = 4 P_r = 3.329 V_j = 2479 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 422 T_T = 1733 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	627	AX		1.018	6.893	13.285		0	1.88	1984	161	
	628			1.098					2.88	2121	144	
	629			1.178					3.88	2218	153	HISTO. MEASURED AXIALLY
	630			1.258					4.88	2265	134	ON JET AXIS (CONTINUED)
	631			1.338					5.88	2293	135	
	632			1.498					7.88	2255	174	
	633			1.658					9.87	2089	249	
263				-	7.749			0.5	-	-	-	AX. TRAVS. ON x/D_{eq} = 0.5
264				-					-	-	-	
	634			1.658					9.87	-	-	
	635			"					"	1456	336	
	636			1.338					5.88	1665	415	HISTO. MEASURED AXIALLY
	637			"					"	1705	353	ON x/D_{eq} = 0.5
	638			1.0					2.88	1888	364	
	639			"					1.88	1852	324	
	640			-					0.90	-	-	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-62. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 10/28/81

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 4 P_r = 3.329 V_j = 2479 Ft/Sec D_{eq} = 5.67 In.

TEST POINT = 422 T_T = 1733 °R $V_{a/c}$ = 400 Ft/Sec h = 0.81 In.

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Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
265		EW		0.866	-	13.258		0	-	-	-	RADIAL TRAVS. ON X/Deq=0
	641				6.678				0.48	2273	170	HISTO. MEASURED RADIALLY
	642				6.319				0.37	-	-	ON X/Deq=0
266				1.178	-			1.8	-	-	-	RADIAL TRAVS. ON X/Deq=1.8
	643				6.692				0.12	2310	152	HISTO. MEASURED RADIALLY
	644				6.481				0.24	2415	140	ON X/Deq=1.8
	645				6.268				0.37	2275	241	
267				1.498	-			3.7	-	-	-	RADIAL TRAVS. ON X/Deq=3.7
	646				6.497				0.23	-	-	
	647				"				0.23	2134	228	HISTO. MEASURED RADIALLY
	648				6.255				0.37	1966	287	ON X/Deq=3.7
	649				5.793				0.64	1273	372	
	650				"				0.64	1356	376	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 4/30/82

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

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Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF		2.188	7517	13.773	PLUG TIP					
596		AX		.				.	0	.	.	
597				-				.		.	.	AX. TRAVS. ON $r/D_{eq}=0$
598				-	8.276			.	0.5	.	.	AND 0.5, RESPECTIVELY
599				-				.		.	.	
599B				.				.		.	.	
	1377			2.160				-0.39		1699	229	
	1378			2.200				0.16		1688	214	
	1379			2.240				0.73		1659	181	
	1380			2.280				1.29		1607	169	
	1381			2.320				1.86		1576	172	HISTO. MEASURED AXIALLY
	1382			2.360				2.42		1544	172	ON $r/D_{eq} = 0.5$
	1383			2.400				2.98		1516	165	
	1384			2.440				3.55		1506	170	
	1385			2.480				4.11		1472	180	
	1386			2.520				4.67		1444	181	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/30/82

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1387	AX		2.560	8.276	13.773		5.23	0.5	1410	190	
	1388			2.600				5.80		1366	208	
	1389			2.640				6.36		1336	200	
	1390			2.680				6.92		1273	218	HISTO. MEASURED AXIALLY
	1391			2.720				7.49		1234	222	ON x/Deq=0.5 (CONTINUED)
	1392			2.760				8.05		1171	237	
	1393			2.800				8.61		1136	234	
	1394			2.840				9.17		1107	221	
		REF		2.191	7.444	13.761	PLUG TIP (RELOCATED)			·	·	
597b	REPEAT OF G-597									·	·	
600		EW		2.191	·			0	-	·	·	
601				"	·			"	·	·	·	RADIAL TRAVS. ON x/Deq=0
602				2.333	·			2	·	·	·	AND 2, RESPECTIVELY
603				"	·			"	·	·	·	

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/30/82

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1395	EW		2.333	6.162	13.761		2.0	-0.85	887	263	
	1396				6.358				-0.72	1215	226	
	1397				6.636				-0.53	1548	149	
	1398				6.866				-0.38	1497	142	
	1399				7.162				-0.19	1261	126	
	1400				7.375				-0.05	1163	104	HISTO. MEASURED RADIALLY
	1401				7.628				0.12	1314	154	ON x/D_{eq} = 2.0
	1402				7.871				0.28	1517	140	
	1403				8.066				0.41	1623	127	
	1404				8.225				0.52	1613	142	
	1405				8.394				0.63	1412	201	
	1406				8.630				0.78	1016	240	
	1407				8.821				0.91	720	194	
604				2.616	.			6.0	.	.	.	RADIAL TRAVS. ON x/D_{eq} = 6
605				″	.			″	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

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TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/30/82

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
606		EW		2.758	-	13.761		8	.	.	.	RADIAL TRAVS. ON X/D_{eq} = 8
607					-				.	.	.	
	1408				9.225			8	1.18	607	178	
	1409				8.845				0.92	789	241	
	1410				8.486				0.69	1047	243	
	1411				8.072				0.42	1278	196	
	1412				7.742				0.20	1362	162	
	1413				7.387				-0.04	1359	137	HISTO. MEASURED RADIALLY
	1414				7.067				-0.25	1335	147	ON X/D_{eq} = 8
	1415				6.732				-0.47	1232	198	
	1416				6.313				-0.75	1010	226	
	1417				5.866				-1.04	750	227	
	141[illegible]				5.488				-1.29	566	200	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/30/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.719	2.031	6.186	13.420	MID POINT OF ANNULUS HEIGHT AT EXIT					
608		NS				-	0.14	r'/h=0.5	z'/h	.	.	CHORDWISE TRAVS. AT (x'/h = 0.14, r'/h
	1419					13.201			= 0.03	1808	201	
	1420					13.374			0.24	1725	169	HISTO. MEASURED CHORDWISE
	1421					13.467			0.50	1801	200	AT (x'/h=0.14, r'/h=0.5)
	1422					13.483			0.54	1821	219	
609			REPEAT OF G-608			-				.	.	
610		SLANT AX	.			13.420	.		r'/h=0.5	.	.	SLANT-AX. TRAVS. ON r'/h=0.5
611			.				.			.	.	
	1423		0.840				0.23			1861	197	
	1424		0.942				0.42			1994	245	
	1425		1.035				0.59			2154	271	HISTO. MEASURED SLANT-AXIAL
	1426		1.102				0.71			2260	244	ON r'/h=0.5
	1427		1.164				0.83			2299	248	
	1428		1.213				0.92			2301	221	
	1429		1.310				1.10			2127	157	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/30/82

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1430	SLANT AX	1.297	2.031	6.186	13.420	1.26		SLANT r/h=0.5	2170	150	
	1431		1.481				1.42			2244	153	
	1432		1.602				1.65			2356	141	
	1433		1.698				1.83			2378	157	
	1434		1.774				1.97			2356	123	
	1435		1.884				2.10			2375	121	HISTO. MEASURED SLANT-
	1436		1.931				2.26			2349	147	AXIALLY ON r/h=0.5
	1437		2.047				2.48			2365	140	(CONTINUED)
	1438		2.163				2.69			2409	130	
	1439		2.288				2.93			2388	189	
	1440		2.389				3.12			2284	251	
	1441		2.480				3.29			2171	321	
	1442		2.608				3.52			2129	351	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/30/82

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
612		EW	1.310		.	13.289*	1.1	-1.82	.	.	.	
613			"		.		"	"	.	.	.	RADIAL TRAVS. ON x/D_{eq} = -1.82
614			1.931		.		2.3	-1.56	.	.	.	AND -1.56, RESPECTIVELY
615			"		.			"	.	.	.	
616		NS	1.931		6.186	.		.	SLANT r'/h=0.5	.	.	CHORDWISE TRAVS AT (r'/h=0.5,
617			"			.		.		.	.	x'/h = 2.3)
	1443		1.931			13.464		z'/h=0.35		2307	175	HISTO. MEASURED CHORDWISE
	1444					13.375		0.24		2316	153	AT (r'/h=0.5, x'/h = 2.3)
	1445					13.304		0.04		2316	118	
618			1.310			.	1.1	.		.	.	CHORDWISE TRAVS. AT (r'/h=0.5,
619						.		.		.	.	x'/h = 1.1)
	1446					13.469		z'/h=0.50		2077	247	HISTO. MEASURED CHORDWISE
	1447					13.403		0.32		2059	163	AT (r'/h=0.5, x'/h=1.1)
	1448					13.288		0.00		2116	184	
620			2.552			.	3.4	.		.	.	CHORDWISE TRAVS. AT (r'/h=0.5,
621			"			.	"	.		.	.	x'/h = 3.4)

* NEW REFERENCE OF MID-POINT OF ANNULUS HEIGHT AT EXIT

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/30/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1449	NS	2.552		6.186	13.423	3.4	z/h=0.37	SLANT r'/h=0.5	2133	328	HISTO MEASURED CHORDWISE
	1450	↓	↓		↓	13.367	↓	0.22	↓	2294	195	AT (r'/h=0.5, x'/h=3.4)
	1451	↓	↓		↓	13.312	↓	0.06	↓	2239	222	(CONTINUED)
622		↓	3.173		↓	-	4.58	.	↓	.	.	
623		↓	↓		↓	-	↓	.	↓	.	.	
624		↓	3.794		↓	-	5.74	.	↓	.	.	CHORDWISE TRAVS. AT (r'/h=0.5,
625		↓	↓		↓	-	↓	.	↓	.	.	x'/h=4.58, 5.74, 6.90
626		↓	4.415		↓	-	6.90	.	↓	.	.	AND 8.05,) RESPECTIVELY
627		↓	↓		↓	-	↓	.	↓	.	.	
628		↓	5.036		↓	-	8.05	.	↓	.	.	
629		↓	↓		↓	-	↓	.	↓	.	.	
630		SLANT AX	-		6.330	13.395	-	.	r'/h=1.0	.	.	SLANT-AX TRAVS. ON r'/h=1.0
631		↓	-		↓	↓	-	.	↓	.	.	
	1452	↓	1.108		↓	↓	0.73	.	↓	2130	266	HISTO. MEASURED SLANT-AXIALLY
	1453	↓	↓		↓	↓	↓	.	↓	2103	257	ON r'/h=1.0
	1454	↓	1.234		↓	↓	0.96	.	↓	2207	267	

NOMENCLATURE

P_r = Pressure Ratio

V_j = Fully Expanded Jet Velocity

D_{eq} = Equivalent Diameter

T_T = Total Temperature

$V_{a/c}$ = Free Jet Velocity

h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 4/30/82

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1455	SLANT AX	1.393		6.330	13.395	1.26		SLANT r'/h=1.0	2169	176	
	1456		1517				1.49			2183	218	
	1457		1.752				1.93			2367	215	
	1458		1.914				2.23			2215	153	
	1459		2.031				2.45			2232	123	
	1460		2.135				2.64			2286	142	
	1461		2.279				2.91			2369	152	HISTO. MEASURED SLANT-AXIALLY
	1462		2.493				3.31			2241	130	ON r'/h=1.0
	1463		2.633				3.57			2291	135	(CONTINUED)
	1464		2.728				3.75			2325	133	
	1465		2.866				4.00			2318	160	
	1466		3.041				4.33			2224	186	
	1467		3.173				4.58			2267	177	
	1468		3.329				4.87			2235	201	
	1469		3.522				5.23			2156	235	
	1470		3711				5.58			2105	264	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-63. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 4/30/82

MODEL = 5 P_r = 3.123 V_j = 2421 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 513 T_T = 1732 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1471	SLANT AX	3.988		6.330	13.395	6.10	.	SLANT r'/h=1.0	1963	255	HISTO. MEASURED SLANT-AXIALLY
	1472	↓	4.281		↓	↓	6.65	.	↓	1844	245	ON r'/h=1.0 (CONCLUDED)
632		NS	1.234			-	0.96	.		.	.	
633		↓	↓			-	↓	.		.	.	CHORDWISE TRAVS. AT (r'/h=1.0,
634	REPEAT OF	G-632/633				-	.	.		.	.	x'/h = 0.96)
635						-	.	.		.	.	
	1473	NS	1.234			13.251	.	x'/h=-0.11		2274	168	
	1474					13.470	.	0.50		2299	189	HISTO. MEASURED CHORDWISE
	1475					13.435	.	0.41		2261	244	AT (r'/h=1.0, x'/h=0.96)
	1476					13.393	.	0.29		2203	163	
	1477	↓	↓		↓	13.316	.	↓ 0.08	↓	2245	173	
636		SLANT AX	-		6.071	.	.	.	r'/h=0.2	.	.	SLANT-AX TRAVS. ON r'/h = 0.2
637		↓	-		↓	.	.	.	↓	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-64. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 5/3/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 5 P_r = 3.209 V_j = 1701 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1513 T_T = 850 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.150	2.188	7.342	13.740	PLUG TIP					
638		AX							0			AX. TRAVS. ON $r/D_{eq}=0$
639												AND 0.5, RESPECTIVELY
640					8.101				0.5			
641												
	1478			2.157				-0.44		1214	144	
	1479			2.197				0.13		1277	148	
	1480			2.237				0.70		1306	118	
	1481			2.277				1.25		1304	103	
	1482			2.317				1.81		1284	107	HISTO. MEASURED AXIALLY
	1483			2.357				2.38		1271	103	ON $r/D_{eq}=0.5$
	1484			2.397				2.94		1249	110	
	1485			2.437				3.50		1226	105	
	1486			2.477				4.07		1206	110	
	1487			2.517				4.63		1179	126	
	1488			2.557				5.19		1161	124	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-64. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/3/82

MODEL = 5 P_r = 3.209 V_j = 1701 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1513 T_T = 850 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1489	AX		2.597	8.101	13.740		5.75	0.5	1131	130	
	1490			2.637				6.32		1097	145	
	1491			2.677				6.88		1072	147	
	1492			2.717				7.44		1045	152	HISTO. MEASURED AXIALLY
	1493			2.757				8.01		1024	148	ON r/D_{eq}=0.5
	1494			2.793				8.51		982	167	
	1495			2.838				9.13		967	163	
	1496			2.877				9.69		932	161	
	1497			2.917				10.26		921	161	
642		EW		2.186	.			0.3	.	.	.	
643				:	.			:	.	.	.	
644				2.328	.			2	.	.	.	RADIAL TRAVS. ON x/D_{eq} = 0.3,
645				:	.			:	.	.	.	2 AND 5.6, RESPECTIVELY
646				2.611	.			5.6	.	.	.	
647				:	.			:	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-64. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/3/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 5 P_r = 3.209 V_j = 1701 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1513 T_T = 850 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
648		EW		2.753	·	13.740		7.4	·	·	·	RADIAL TRAVS. ON X/D_{eq} = 7.4
649					·				·	·	·	
	1498				5.808				-1.01	685	185	
	1499				6.222				-0.74	862	169	
	1500				6.642				-0.46	1025	127	
	1501				6.948				-0.26	1068	110	
	1502				7.150				-0.13	1077	104	HISTO. MEASURED RADIALLY
	1503				7.348				0.00	1091	104	ON X/D_{eq} = 7.4
	1504				7.729				0.26	1123	111	
	1505				8.129				0.52	1007	152	
	1506				8.459				0.74	847	186	
	1507	NOT RECORDED			-				-	-	-	
	1508				8.878				1.01	628	171	
650				2.895	·			9.2	·	·	·	RADIAL TRAVS. ON X/D_{eq} = 9.2
651					·				·	·	·	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-64. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/4/82

MODEL = 5 P_r = 3.209 V_j = 1701 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1513 T_T = 850 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.500	2.002	5.463	13.253	MID-POINT OF ANNULUS HEIGHT AT EXIT					
652		SLANTAX			5.998				SLANT r'/h = 0.5			SLANT-AX TRAVS. ON
653												r'/h = 0.5
	1509		0.950				0.84			1633	232	
	1510		1.050				1.03			1495	194	
	1511		1.120				1.16			1436	109	
	1512		1.550				1.96			1669	90	
	1513		1.900				2.61			1677	57	HISTO. MEASURED SLANT-
	1514		2.030				2.85			1704	80	AXIALLY ON r'/h = 0.5
	1515		2.350				3.45			–	–	
	1516		2.520				3.77			1624	140	
	1517		4.020				6.57			1166	164	
	1518		2.718				4.14			1558	182	
	1519		1.328				1.54			1578	112	
654					6.179				r'/h = 1.0			SLANT-AX TRAVS. ON
655												r'/h = 1.0

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-64. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/4/82

MODEL = 5 P_r = 3.209 V_j = 1701 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1513 T_T = 850 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1520	SLANT AX	0.965		6.179	13.253	0.87		SLANT r'/h=1.0	1628	114	
	1521		1.252				1.40			-	-	
	1522		"				"			1574	90	
	1523		1.527				1.92			1707	130	
	1524		1.816				2.46			1571	99	
	1525		2.113				3.01			1685	120	
	1526		2.373				3.49			1593	83	
	1527		2.666				4.04			1672	112	HISTO. MEASURED SLANT-AXIALLY
	1528		3.235				5.10			1579	98	ON r'/h=1.0
	1529		"				"			1587	102	
	1530		1.069				1.06			1635	111	
	1531		1.171				1.25			1605	91	
	1532		1.320				1.53			1606	84	
	1533		1.401				1.68			1668	88	
	1534		1.680				2.20			1632	131	
	1535		2.223				3.21			1638	116	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-64. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 5/4/82

MODEL = 5 P_r = 3.209 V_j = 1701 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1513 T_T = 850 °R $V_{a/c}$ = 0 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1536	SLANT AX	2.485		6.179	13.253	3.70	.	SLANT r'/h=1.0	1612	163	HISTO. MEASURED SLANT-AXIALLY
	1537	"	3.454		"		5.59	.	"	1581	93	ON r'/h=1.0 (CONTINUED)
656		EW	1.800		-		2.43	-1.53	.	.	.	
657			"		-		"	"	-	.	.	RADIAL TRAVS. ON x/D_{eq} = -1.53
658			2.800		-		4.29	-1.10	-	.	.	AND -1.10, RESPECTIVELY
659					-			"	-	.	.	
660					5.998	-		-	r'/h=0.5	.	.	
661						-		-		.	.	
662			1.800			-	2.43	-		.	.	CHORDWISE TRAVS. AT (x'/h=4.29,
663			"			-	"	-		.	.	r'/h=0.5), (x'/h=2.43, r'/h=0.5) AND
664			1.100			-	1.12	-		.	.	(x'/h=1.12, r'/h=0.5), RESPECTIVELY
665			"			.	"	-		.	.	
		REF		2.175	7.292	13.737	PLUG TIP	-	.	.	.	
666		AX	.	.	8.688	13.801	-	.	0.92	.	.	AX. TRAVS. ON x/D_{eq} = 0.92
667		↓	.	.	"	"	.	.	"	.	.	(NEAR PLUG SURFACE)
												TESTED ON 5/5/82

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-65. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 5/5/82

MODEL = 5 P_r = 3.214 V_j = 1702 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1514 T_T = 850 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	.	2.181	7.288	13.745	PLUG TIP					
668		AX		-	7.288			.	0	.	.	
669				-	"			.	"	.	.	AX. TRAVS. ON r/D_{eq}=0 AND
670				-	8.047			.	0.5	.	.	0.5, RESPECTIVELY
671				-				.		.	.	
	1538			2.161				-0.28		1237	120	
	1539			2.201				0.28		1308	114	
	1540			2.241				0.84		1358	106	
	1541			2.281				1.41		1353	101	
	1542			2.321				1.97		1350	89	HISTO. MEASURED AXIALLY
	1543			2.361				2.53		1339	90	ON r/D_{eq}=0.5
	1544			2.401				3.10		1324	90	
	1545			2.441				3.66		1311	89	
	1546			2.481				4.20		1297	100	
	1547			2.521				4.78		1289	93	
	1548			2.561				5.35		1264	99	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

ORIGINAL PAGE IS OF POOR QUALITY

TABLE 6-65. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/5/82

MODEL = 5 P_r = 3.214 V_j = 1702 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1514 T_T = 850 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1549	AX		2.601	8.047	13.745		5.90	0.5	1248	100	
	1550			2.641				6.47		1230	100	
	1551			2.681				7.03		1212	103	
	1552			2.721				7.60		1552	147	HISTO. MEASURED AXIALLY
	1553			2.761				8.16		1161	115	ON r/D_{eq}=0.5
	1554			2.801				8.72		1131	118	
	1555			2.841				9.29		1117	123	
	1556			2.881				9.85		1109	116	
	1557			2.921				10.41		1090	121	
672		EW		2.172	-			-0.12	-	-	-	
673				〃	-			〃	-	-	-	
674				2.315	-			1.88	-	-	-	RADIAL TRAVS. ON x/D_{eq}=-0.12,
675				〃	-			〃	-	-	-	1.88 AND 5.87, RESPECTIVELY
676				2.598	-			5.87	-	-	-	
677				〃	-			〃	-	-	-	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-65. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/5/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 5 P_r = 3.214 V_j = 1702 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1514 T_T = 850 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
678		EW		2.740		13.745		7.86				RADIAL TRAVS. ON x/D_{eq} = 7.9
679												
	1558				5.773				-1.00	714	144	
	1559				6.080				-0.80	892	168	
	1560				6.327				-0.63	1053	139	
	1561				6.608				-0.45	1140	107	
	1562				6.855				-0.29	1158	98	HISTO. MEASURED RADIALLY
	1563				7.237				-0.03	1092	92	ON x/D_{eq} = 7.9
	1564				7.554				0. 0	1156	99	
	1565				7.974				0.45	1195	106	
	1566				8.275				0.65	1059	146	
	1567				8.642				0.89	813	146	
	1568				8.838				1.02	701	125	
680				2.882				9.82				RADIAL TRAVS. ON x/D_{eq} = 9.8
681												

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-65. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/5/82
5/6/82

MODEL = 5 P_r = 3.214 V_j = 1702 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1514 T_T = 850 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.500	1.997	4.557	13.260	MID-POINT OF ANNULUS HEIGHT AT EXIT					
682		SLANT AX	-		6.000	13.326	-		SLANT r'/h=0.5	.	.	SLANT-AX TRAVS. ON r'/h=0.5
683			-				-			.	.	
	1569		1.020				0.97			1789	172	
	1570		1.172				1.25			1432	102	HISTO. MEASURED SLANT-AXIALLY
	1571		1.077				1.08			1500	135	ON r'/h=0.5
	1572		1.460				1.78			1665	140	
		REF	0.500	1.989	4.585	13.330	MID-POINT OF ANNULUS HEIGHT AT EXIT					
684		SLANT AX	-		5.975		-		SLANT r'/h=0.5	.	.	REPEAT OF G-682
	1573		1.084				1.09			1452	212	
	1574		1.455				1.78			1670	115	
	1575		1.689				2.22			1670	125	HISTO. MEASURED SLANT-
	1576		1.836				2.49			1615	105	AXIALLY ON r'/h=0.5
	1577		1.982				2.76			1657	134	
	1578		1.566				2.00			1677	92	
	1579		2.134				3.05			1642	99	

TESTED 5/5/82

TESTED 5/6/82

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-65. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/6/82

MODEL = 5 P_r = 3.214 V_j = 1702 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1514 T_T = 850 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
685		SLANT AX	-		6.158	13.330	-		SLANT r/h=1.0	-	-	SLANT-AX. TRAVS. ON r/h=1.0
686			-				-			-	-	
	1580		1.005				0.94			1637	183	
	1581		1.193				1.29			1586	178	
	1582		1.338				1.56			1567	111	
	1583		1.483				1.83			1631	108	
	1584		1.633				2.11			1643	220	
	1585		1.792				2.41			1554	183	
	1586		1.948				2.70			1564	138	HISTO. MEASURED SLANT-AXIALLY
	1587		2.226				3.22			1635	164	ON r/h=1.0
	1588		2.534				3.79			1577	137	
	1589		2.357				3.46			1591	121	
	1590		2.758				4.21			1616	102	
	1591		3.343				5.31			1609	80	
	1592		3.908				6.36			1561	161	
	1593		4.414				7.30			1484	110	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-65. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 5/16/82

MODEL = 5 P_r = 3.214 V_j = 1702 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1514 T_T = 850 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
687		SLANT AX	.	1.999	6.258	13.330			SLANT r'/h=1.25			
688			.		"				"			SLANT-AX TRAVS. ON r'/h = 1.25,
689			.		6.360				r'/h = 1.5			1.5 AND 0.3, RESPECTIVELY
690			.		"				"			
691					5.876				r'/h = 0.3			
692					"				"			
693		EW	5.208		–		8.78	0.08	r'/h = 0			
694			"					"				
695			4.208		–		6.92	–0.50				
696			"					"				RADIAL TRAVS. ON x/D_{eq} = 0.08,
697			3.208		–		5.05	–0.93				–0.5, –0.93 AND –1.35,
698			"		–		"	"				RESPECTIVELY
699			2.205		–		3.18	–1.35				(NEAR PLUG SURFACE)
700			"		–		"					

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

730

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TABLE 5-66. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 5/7/82

MODEL = 5 P_r = 3.128 V_j = 2415 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 514 T_T = 1722 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

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Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.500	2.027	6.025	13.400	MID-POINT	OF ANNULUS HEIGHT AT EXIT				
701		SLANT AX	.				.		SLANT r/h = 0.5	.	.	SLANT-AX. TRAVS. ON r/h = 0.5
702			.				.			.	.	
	1594		0.756				0.48			1788	316	
	1595		0.817				0.59			1885	228	
	1596		0.967				0.87			2035	364	
	1597		1.215				1.33			1999	242	
	1598		1.315				1.52			2056	243	
	1599		1.415				1.71			2115	235	HISTO. MEASURED SLANT-
	1600		1.512				1.89			2191	237	AXIALLY ON r/h = 0.5
	1601		1.600				2.05			2212	228	
	1602		1.682				2.21			–	–	
	1603		1.786				2.40			2157	218	
	1604		1.887				2.59			2202	216	
	1605		1.988				2.78			2235	241	
	1606		2.109				3.00			2287	201	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-66. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/7/82

MODEL = 5 P_r = 3.128 V_j = 2415 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 514 T_T = 1722 °R $V_{a/c}$ = 400 Ft/Sec   h = 1.19 In.

Graph No.	Histo No.	Type of Travers	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
703		SLANT AX	-		6.142	13.451	.		SLANT r/h=1.0			SLANT-AX. TRAVS. ON r/h=1.0
704			-				.					
	1607		0.983		6.022		0.90					
	1608		1.522				1.91					
	1609		2.120				3.02					
	1610		2.675				4.06					SOME INACCURACY WAS INVOLVED IN
	1611		3.195		5.976		5.03					LOCATIONING OF TRAVERSER.
	1612		2.909				4.49					REPEATED IN G-705/706, H-1619 through
	1613		2.357				3.46					H-1629
	1614		1.789				2.40					
	1615		1.204				1.31					
	1616		1.032				0.99					
	1617		1.112				1.14					
	1618		1.300				1.49					

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity   h = Annulus Height

TABLE 5-66. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/10/82

MODEL = 5 P_r = 3.128 V_j = 2415 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 514 T_T = 1722 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.500	2.188	5.952	13.489	MID-POINT OF ANNULUS HEIGHT AT EXIT					
705		SLANT AX	.		6.146		.		SLANT r'/h=1.0	.	:	SLANT-AX. TRAVS. ON r'/h=1.0
706			.				.			.		
	1619		1.398				1.68			2193	292	
	1620		1.581				2.02			2249	358	
	1621		1.701				2.24			-	-	
	1622		1.914				2.64			2185	243	
	1623		1.989				2.78			2195	299	HISTO. MEASURED SLANT-AXIALLY
	1624		"				"			2192	167	ON r'/h=1.0
	1625		2.169				3.11			2241	195	
	1626		2.244				3.25			2172	139	
	1627		2.454				3.65			2190	151	
	1628		1.915				2.64			2159	155	
	1629		1.701				2.24			2112	218	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-66. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/10/82

MODEL = 5 P_r = 3.128 V_j = 2415 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 514 T_T = 1722 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
707		SLANT AX	.		6.246	13.499	.		SLANT r/h=1.25	.	.	
708			.		"		.		"	.	.	
709			.		6.346		.		r/h=1.5	.	.	SLANT-AX TRAVS. ON r/h=1.25,
710			.		"		.		"	.	.	1.5, AND 0.3, RESPECTIVELY
711			.		5.952		.		r/h=0.3	.	.	
712			.		"		.		"	.	.	
713		EW	5.208		.		8.8	0.0	r/h=0.5	.	.	
714			"		.		"	"		.	.	
715			4.208		.		6.9	-0.5		.	.	RADIAL TRAVS. ON x/D_{eq} = 0.0,
716			"		.		"	"		.	.	-0.5, -0.72 AND -1.58,
717			3.208		.		5.1	-0.72		.	.	RESPECTIVELY
718			"		.		"	"		.	.	
719			2.208		.		2.2	-1.58		.	.	
720			"		.		"	"		.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-66. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/12/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 5 P_r = 3.128 V_j = 2415 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 514 T_T = 1722 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.500	2.201	7.355	13.876	PLUG TIP					
721		AX		·	7.355			-	0	·	·	AX. TRAVS. ON r/D_{eq}=0 AND 0.5, RESPECTIVELY.
722				·	〃			-	〃	·	·	
723				·	8.114			-	0.5	·	·	
724				·				·		·	·	
	1630			2.173				-0.39		1550	208	
	1631			2.213				0.17		1763	160	
	1632			2.253				0.73		1798	138	
	1633			2.293				1.29		1794	147	
	1634			2.333				1.86		1776	124	HISTO. MEASURED AXIALLY ON r/D_{eq}=0.5
	1635			2.373				2.42		1754	118	
	1636			2.413				2.98		1735	115	
	1637			2.453				3.54		1713	111	
	1638			2.493				4.11		1707	118	
	1639			2.533				4.67		1687	128	
	1640			2.573				5.23		1654	136	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-66. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/12/82

MODEL = 5 P_r = 3.128 V_j = 245 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 514 T_T = 1722 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1641	AX		2.613	8.114	13.876		5.80	0.5	1622	133	
	1642			2.653				6.36		1584	152	
	1643			2.693				6.92		1534	152	
	1644			2.733				7.49		1510	154	
	1645			2.773				8.05		1459	169	HISTO. MEASURED AXIALLY
	1646			2.813				8.61		1405	171	ON r/D_{eq} = 0.5
	1647			2.853				9.17		1382	181	
	1648			2.893				9.74		1350	188	
	1649			2.893				9.74		1334	177	
	1650			2.933				10.29		1289	202	
725		EW		2.201	-			0.0	.	.	.	
726				"	-			"	.	.	.	
727				2.352	-			2.0	.	.	.	RADIAL TRAVS. ON x/D_{eq} = 0,
728				"	-			"	.	.	.	2.0 AND 6.0, RESPECTIVELY
729				2.654	-			6.0	.	.	.	
730				"	.			"	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio
T_T = Total Temperature
V_j = Fully Expanded Jet Velocity
$V_{a/c}$ = Free Jet Velocity
D_{eq} = Equivalent Diameter
h = Annulus Height

TABLE 5-66. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 5/12/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 5 P_r = 3.128 V_j = 2415 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 514 T_T = 1722 °R $V_{a/c}$ = 400 Ft/Sec h = 1.19 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
731		EW		2.800	-	13.876		8.0	-	.	.	RADIAL TRAVS. ON x/D_{eq}=8.0
732					-				-	.		
	1651				5.517				-1.21	697	192	
	1652				5.991				-0.90	998	217	
	1653				6.498				-0.57	1267	162	
	1654				6.773				-0.38	1343	141	
	1655				7.052				-0.20	1370	130	HISTO. MEASURED RADIALLY
	1656				7.355				0.0	1421	121	ON x/D_{eq}=8.0
	1657				7.674				0.21	1478	134	
	1658				7.825				0.31	1498	138	
	1659				8.040				0.45	1413	168	
	1660				8.343				0.65	1200	204	
	1661				8.668				0.87	928	198	
	1662				9.053				1.12	684	169	
733				2.950	.			12	.	.	.	RADIAL TRAVS. ON x/D_{eq} = 12
734				"	.			"	.	.	.	

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 5/19/82

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 613 T_T = 1728 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.086	2.219	7.214	13.893	PLUG TIP					
737		AX		-	7.214			·	0	·	·	
738				-	"			·	"	·	·	AX. TRAVS. ON r/Deq = 0
739				-	7.971			·	0.5	·	·	AND 0.5, RESPECTIVELY
740				-				·		·	·	
	1667			2.196				-0.39		-	-	
	1668			2.236				0.17		2046	168	
	1669			2.274				0.70		1989	163	
	1670			2.318				1.32		1954	156	
	1671			2.358				1.89		1988	163	HISTO. MEASURED AXIALLY
	1672			2.396				2.42		1924	183	ON r/Deq = 0.5
	1673			2.436				2.98		1898	190	
	1674			2.476				3.55		1859	231	
	1675			2.516				4.11		1844	195	
	1676			2.556				4.67		1809	223	
	1677			2.596				5.23		1757	246	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/19/82

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 613 T_T = 1728 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1678	AX		2.636	7.971	13.893		5.80	0.5	1690	275	
	1679			2.676				6.36		1632	266	
	1680			2.716				6.92		1583	283	
	1681			2.756				7.49		1546	284	HISTO. MEASURED AXIALLY
	1682			2.796				8.05		1471	300	ON r/D_{eq} = 0.5 (CONTINUED)
	1683			2.836				8.61		1465	302	
	1684			2.876				9.17		1404	284	
	1685			2.916				9.74		1364	293	
	1686			2.956				10.30		1345	297	
741		EW		2.219	·			0.0	-	·	·	RADIAL TRAVS. ON x/D_{eq} = 0
742		"		"	-			"	-	·	·	
743		AX		-	8.728			-	1.0	·	·	AX. TRAVS. ON r/D_{eq} = 1.0
744		"		-	"			-	"	·	·	
745		EW		2.461	-			3.40	-	·	·	RADIAL TRAVS. ON x/D_{eq} = 3.4
746		"		"	-			"	-	·	·	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/19/82

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 613 T_T = 1728 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1687	EW		2.461	6.673	13.893		3.4	-0.36	1892	185	
	1688				6.866				-0.23	1966	126	
	1689				7.053				-0.11	1888	143	
	1690				7.246				0.02	1797	122	
	1691				7.389				0.12	1798	149	HISTO. MEASURED RADIALLY
	1692				7.547				0.22	1882	158	ON X/D_{eq} = 3.4
	1693				7.742				0.35	1972	122	
	1694				7.906				0.46	1931	185	
	1695				8.113				0.59	-	-	
	1696				8.323				0.73	1163	306	
747				2.675	-			6.4	-	-	·	RADIAL TRAVS. ON X/D_{eq} = 6.4
748				"	-			"	-	-	·	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/20/82

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 613 T_T = 1725 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.087	2.224	7.341	13.841	PLUG TIP					
749		EW		2.833	-			8.60	-	.	.	RADIAL TRAVS. ON x/D_{eq} = 8.6
750					-				-	.	.	
	1698				6.494				-0.56	1299	322	
	1699				6.674				-0.44	1490	298	
	1700				6.880				-0.30	1691	247	
	1701				7.106				-0.16	1775	199	
	1702				7.349				0.00	1820	193	HISTO. MEASURED RADIALLY
	1703				7.520				0.12	1795	233	ON x/D_{eq} = 8.6
	1704				7.690				0.23	1757	209	
	1705				7.853				0.34	1622	268	
	1706				8.076				0.49	1413	285	
	1707				8.244				0.60	1225	312	
751				2.092	-			-1.86	-	.	.	RADIAL TRAVS. ON x/D_{eq} = -1.86
752					-				-	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/20/82

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 in.

TEST POINT = 613 T_T = 1728 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 in.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
753		EW	-	2.113	-	13.841	-	-1.56	-	-	-	RADIAL TRAVS. ON x/D_{eq} = -1.56
754		"	-	"	-	"	-	"	-	-	-	
		REF	0.200	2.060	5.763	13.342	MID-POINT OF ANNULUS HEIGHT AT EXIT					
755		SLANT AX	-				-		SLANT r/h=0.5	-	-	SLANT-AX. TRAVS. ON r/h=0.5
756			-				-			-	-	
	1708		4.687				7.73			2100	160	
	1709		4.598				7.57			2066	186	
	1710		4.314				7.08			2067	192	
	1711		4.007				6.55			2141	193	
	1712		3.694				6.01			2182	188	HISTO. MEASURED SLANT-AXIALLY
	1713		3.393				5.49			2227	180	ON r/h=0.5
	1714		3.097				4.99			2260	181	
	1715		2.797				4.47			2311	183	
	1716		2.489				3.94			2342	138	
	1717		2.294				3.60			—	-	
	1718		2.095				3.26			2320	135	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/20/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 613 T_T = 1728 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1719	SLANT AX	1.908		5.763	13.342	2.94		SLANT r/h=0.5	2339	110	
	1720		1.701				2.58			2333	117	
	1721		1.511				2.26			2290	115	
	1722		1.310				1.91			2259	145	
	1723		1.102				1.55			2286	197	HISTO. MEASURED SLANT-AXIALLY
	1724		0.903				1.21			2197	189	ON r/h=0.5 (CONTINUED)
	1725		0.693				0.85			2146	193	
	1726		0.485				0.47			2068	254	
	1727		0.290				0.15			1919	232	
757					5.962				r/h=1.0			SLANT-AX. TRAVS. ON r/h=1.0
758												
	1728		4.689				7.73			2133	169	
	1729		4.483				7.37			2137	182	HISTO. MEASURED SLANT-AXIALLY
	1730		4.278				7.02			2133	190	ON r/h=1.0
	1731		4.073				6.67			2133	245	
	1732		3.880				6.33			2152	211	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/20/82

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 613 T_T = 1728 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1733	SLANT-AX	3.692		5.962	13.342	6.01		SLANT r'/h=1.0	2118	222	
	1734		3.483				5.65			2076	270	HISTO. MEASURED SLANT-AXIALLY
	1735		3.316				5.36			2038	273	ON r'/h=1.0 (CONTINUED)
	1736		3.089				4.97			1953	324	
	1737		2.870				4.59			1880	325	
759			-		6.152		-		r'/h=1.5	.	.	
760			-		"		-		"		.	SLANT-AX. TRANS. ON r'/h=1.5
761			-		5.642		-		r'/h=0.3	.	.	AND r'/h=0.3, RESPECTIVELY
762			-		"		-		"	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/20/82

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 613 T_T = 1728 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.060	5.763	13.342	MID-POINT OF ANNULUS HEIGHT AT EXIT					
762A		NS	0.655		5.763	·	0.78		SLANT r'/h = 0.5	·	·	
762B			''		·	·	''			·	·	CHORDWISE (NS) TRAVS.
763			1.133		·	·	1.61			·	·	AT (x'/h = 0.78, r'/h = 0.5),
764			''		·	·	''			·	·	(x'/h = 1.61, r'/h = 0.5),
765			1.610		·	·	2.43			·	·	(x'/h = 2.43, r'/h = 0.5),
766			''		·	·	''			·	·	(x'/h = 3.25, r'/h = 0.5),
767			2.088		·	·	3.25			·	·	(x'/h = 4.07, r'/h = 0.5),
768			''		·	·	''			·	·	(x'/h = 4.91, r'/h = 0.5) AND
769			2.564		·	·	4.07			·	·	(x'/h = 5.72, r'/h = 0.5),
770			''		·	·	''			·	·	RESPECTIVELY
771			3.055		·	·	4.91			·	·	
772			3.525		·	·	5.72			·	·	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TABLE 5-67. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 5/24/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 6 P_r = 3.128 V_j = 2420 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 613 T_T = 1728 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

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Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.205	4.547	13.445	PLUG TIP	.		.	.	
773		NF	0.797	.	.	-	1.03	.	SLANT $r'/h=1.0$	.	.	CHORDWISE(NS) TRAVS.
774		↓	0.278	.	.	-	0.13	.	$r'/h=0.5$	.	.	AT ($x'/h=1.03$, $r'/h=1.0$) AND
775		↓	"	.	.	-	"	.	"	.	.	($x'/h=0.13$, $r'/h=0.5$),
												RESPECTIVELY

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 5/24/82

MODEL = 6 P_r = 3.125 V_j = 2419 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.205	4.483	13.370	PLUG TIP					
776		SLANT AX	-		6.022		-		SLANT r/h = 1.0			SLANT-AX. TRAVS. ON r/h = 1.0
777			-									
	1738		0.520				0.55			1458	316	
	1739		2.063				3.21			1629	318	
	1740		3.446				5.59			2172	235	
	1741		3.662				5.96			2136	376	
	1742		3.840				6.26			2195	198	
	1743		4.016				6.57			2163	199	HISTO. MEASURED SLANT-AXIALLY ON r/h = 1.0
	1744		4.198				6.88			2164	186	
	1745		4.354				7.15			2136	186	
	1746		4.555				7.49			2149	170	
	1747		4.735				7.80			2156	175	
	1748		4.942				8.16			2114	178	
	1749		1.313				1.93			1290	350	
	1750		2.746				4.38			1959	282	

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/24/82

MODEL = 6 P_r = 3.125 V_j = 2419 Ft/Sec D_{eq} = 5.03 in.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 in.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
778		SLANT AX	-	-	5.822	13.370	-		SCANT r/h=0.5	.	.	SLANT-AX.TRAVS. ON r/h=0.5
779			-				-			.	.	
	1751		0.454				0.44			2148	290	
	1752		1.031				1.43			2320	181	
	1753		0.744				0.94			2200	189	
	1754		1.317				1.92			2289	124	
	1755		2.014				3.12			2317	137	HISTO. MEASURED SLANT-AXIALLY
	1756		1.677				2.54			2368	123	ON r/h=0.5
	1757		2.387				3.76			2329	163	
	1758		2.728				4.35			2289	190	
	1759		3.229				5.21			2183	218	
	1760		3.687				6.00			2105	204	
780			.		5.750		-		r/h=0.3	.	.	
781					.		-		.	.	.	SLANT-AX.TRAVS. ON r/h=0.3
782			.		6.122		.		r/h=1.25	.	.	AND 1.25, RESPECTIVELY
783			.		.		.		.	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/24/82

MODEL = 6 P_r = 3.125 V_j = 2419 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
784		SLANT AX	-	-	6.222	13.370	.	.	SLANT r'/h=1.5	.	.	SLANT-AX TRAVS. ON r'/h=1.5
785		"	-	-	"	"	.	.	"	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TEST DATE 5/27/82

TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

MODEL = 6 P_r = 3.125 V_j = 2419 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.213	7.332	13.875	PLUG TIP					
786		AX		-	7.332			.	0	.	.	AX. TRAVS. ON r/D_{eq} = 0 AND 0.5, RESPECTIVELY
787				-	"			.	"	.	.	
788				-	8.089			.	0.5	.	.	
789				-				.		.	.	
	1761			2.185				-0.39		—	—	HISTO. MEASURED AXIALLY ON r/D_{eq} = 0.5
	1762			2.225				0.17		1982	198	
	1763			2.265				0.73		1835	206	
	1764			2.305				1.29		1844	197	
	1765			2.345				1.86		1816	198	
	1766			2.385				2.42		1802	216	
	1767			2.425				2.98		1777	215	
	1768			2.465				3.55		1766	231	
	1769			2.505				4.11		1738	231	
	1770			2.545				4.67		1736	233	
	1771			2.585				5.23		1658	254	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/27/82

MODEL = 6 P_r = 3.125 V_j = 249 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1772	AX		2.625	8.089	13.875		5.80	0.5	-	-	
	1773			2.665				6.36		1549	273	
	1774			2.705				6.92		-	-	
	1775			2.745				7.49		1464	278	
	1776			2.785				8.05		1415	267	HISTO. MEASURED AXIALLY
	1777			2.825				8.61		1389	290	ON r/D_{eq} = 0.5 (CONTINUED)
	1778			2.865				9.17		1362	268	
	1779			2.905				9.74		1343	269	
	1780			2.945				10.30		1331	266	
	1781			2.985				10.86		1289	280	
	1782			2.355				2.00		1743	204	
	1783	NOT RECORDED						-		-	-	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

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TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/27/82

MODEL = 6 P_r = 3.125 V_j = 2619 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.213	7.251	13.855	PLUG TIP					
790		AX		-	8.109			.	0.5	.	.	AX. TRAVS. ON r/D_{eq} = 0.5
791				-				.		.	.	(REPEAT OF G788/G789)
	1786			2.905				9.74		1464	266	
	1787			2.705				6.92		1664	246	HISTO. MEASURED AXIALLY
	1788			2.505				4.11		1881	342	ON r/D_{eq} = 0.5
	1789			2.305				1.29		1878	190	
	1790 - 1791		NOT RECORDED					.		.	.	
		REF	0.200	2.213	7.302	13.833	PLUG TIP (NEW REFERENCE)				.	
	1792	AX		2.305	8.059			1.29	0.5	1923	173	
	1793			2.265				0.73		1926	177	HISTO. MEASURED AXIALLY
	1794			2.225				0.17		2006	185	ON r/D_{eq} = 0.5
	1795			2.185				-0.39		2094	199	
792		EW		2.213	-			0.0	-	.	.	RADIAL TRAVS. ON x/D_{eq} = 0
793		"		"	-			"	-	-	.	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/27/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 6 P_r = 3.125 V_j = 2419 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
794		EW		2.355	-	13.833		2.0	·	·	·	RADIAL TRAVS. ON x/D_{eq} = 2.0
795					-				·	·	·	
	1796				6.270				-0.69	990	254	
	1797				6.473				-0.55	1499	291	
	1798				6.753				-0.36	2036	120	HISTO. MEASURED RADIALLY
	1799				7.375				0.05	1679	141	ON x/D_{eq} = 2.0
	1800				7.901				0.40	2022	127	
	1801				8.189				0.59	1578	260	
	1802				8.450				0.76	-	-	
796				2.669	-			6.4	·	·	·	
797				"	-			"	·	·	·	RADIAL TRAVS. ON x/D_{eq} = 6.4
798				2.821	-			8.6	·	·	·	AND 8.6, RESPECTIVELY
799					-				·	·	·	
	1803				8.809				0.99	758	198	
	1804				8.484				0.78	1020	239	HISTO. MEASURED RADIALLY
	1805				8.152				0.56	1379	273	ON x/D_{eq} = 8.6

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/27/82

MODEL = 6 P_r = 3.125 V_j = 2419 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1806	EW		2.821	7.844	13.833		8.6	0.36	1708	195	
	1807				7.593				0.19	1821	162	
	1808				7.312				0.01	1843	142	
	1809				6.953				-0.23	1783	194	HISTO. MEASURED RADIALLY
	1810				6.673				-0.42	1874	269	ON X/Deq = 8.6
	1811				6.249				-0.70	1107	257	
	1812				5.810				-0.98	771	207	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-68. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 5/27/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 6 P_r = 3.125 V_j = 2419 Ft/Sec D_{eq} = 5.03 in.

TEST POINT = 614 T_T = 1729 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 in.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.213	7.302	13.833	PLUG TIP					
800		EW	-	3.125	·		·	12.8	·	·	·	RADIAL TRAVS. ON x/D_{eq} = 12.8
801			·	3.125	·		·	12.8	·	·	·	
802			1.397	·	·		2.06	-1.50	SLANT r'/h = 0.5	·	·	
803			'	·	·		'	'		·	·	
804			2.425	·	·		3.82	-1.05		·	·	
805			'	·	·		'	'		·	·	RADIAL TRAVS. ON x/D_{eq} = -1.5,
806			3.01	·	·		4.84	-0.81		·	·	-1.05, -0.81, AND 0.46,
807			'	·	·		'	'		·	·	RESPECTIVELY
808			3.84	·	·		6.26	0.46		·	·	(ONLY NEAR PLUG SURFACE)
809			'	·	·		'	'		·	·	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

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TABLE 5-69. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 5/28/82

MODEL = 6 P_r = 3.216 V_j = 1704 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1613 T_T = 852 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.188	7.284	13.725	PLUG TIP					
810		AX		-	7.284			.	0	.	.	
811				-	"			.	"	.	.	AX. TRAVS. ON r/Deq=0 AND 0.5,
812				-	8.041			.	0.5	.	.	RESPECTIVELY
813				-				.		.	.	
	1813			2.160				-0.39		1580	117	
	1814			2.200				0.17		1505	107	
	1815			2.240				0.73		1437	151	
	1816			2.280				1.29		1450	104	
	1817			2.320				1.86		1446	111	HISTO. MEASURED AXIALLY
	1818			2.360				2.42		1431	107	ON r/Deq = 0.5
	1819			2.400				2.98		1409	114	
	1820			2.440				3.55		1413	110	
	1821			2.480				4.11		1404	126	
	1822			2.520				4.67		1383	127	
	1823			2.560				5.23		1352	146	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-69. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/28/82

MODEL = 6 P_r = 3.216 V_j = 1704 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1613 T_T = 852 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1824	AX		2.600	8.041	13.725		5.80	0.5	1334	148	
	1825			2.640				6.36		1303	154	
	1826			2.680				6.92		1280	166	
	1827			2.720				7.49		1243	180	
	1828			2.760				8.05		1203	184	HISTO. MEASURED AXIALLY
	1829			2.800				8.61		1173	198	ON X/Deq = 0.5 (CONTINUED)
	1830			2.840				9.17		1156	201	
	1831			2.880				9.74		1134	196	
	1832			2.920				10.30		1103	197	
814		EW		2.184	.			0.0	.	.	.	
815				〃	.			〃	.	.	.	RADIAL TRAVS. ON X/Deq = 0
816				2.326	.			2.0	.	.	.	AND 2.0, RESPECTIVELY
817					.				.	.	.	
	183[illegible]				8.177				0.59	1209	175	HISTO. MEASURED RADIALLY
	183[illegible]				7.914				0.42	1509	101	ON X/Deq = 2.0
	1835				7.679				0.26	1475	78	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

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TABLE 5-69. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/28/82

MODEL = 6 P_r = 3.216 V_j = 1704 Ft/Sec D_{eq} = 5.03 in.

TEST POINT = 1613 T_T = 852 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 in.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1836	EW		2.326	7.302	13.725		2.0	0.01	1349	119	
	1837				7.073				-0.14	1464	102	HISTO. MEASURED RADIALLY
	1838				6.854				-0.28	1524	79	ON X/D_{eq} = 2.0 (CONTINUED)
	1839				6.485				-0.53	1288	170	
818				2.640	.			6.4	.	.	.	
819				"	.			"	.	.	.	RADIAL TRAVS. ON X/D_{eq} = 6.4
820				2.792	.			8.6	.	.	.	AND 8.6, RESPECTIVELY
821					.				.	.	.	
	1840				6.355				-0.61	984	215	
	1841				6.609				-0.45	1156	190	
	1842				6.860				-0.28	1293	159	
	1843				7.099				-0.12	1367	116	HISTO. MEASURED RADIALLY
	1844				7.307				0.02	1393	102	ON X/D_{eq} = 8.6
	1845				7.505				0.15	1378	113	
	1846				7.703				0.28	1356	132	
	1847				7.933				0.43	1269	174	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-69. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/28/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 6 P_r = 3.216 V_j = 1704 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1613 T_T = 852 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1848	EW		2.792	8.144	13.725	.	8.6	0.57	1110	198	
	1849				8.330		.		0.69	986	226	HISTO. MEASURED RADIALLY
	1850				8.514		.		0.81	854	214	ON x/D_{eq} = 8.6
822				3.096	.		.	12.8	.	.	.	RADIAL TRAVS. ON x/D_{eq} = 12.8
823				"	.		.	"	.	.	.	
		REF	0.200	2.038	5.856	13.725	MID POINT OF ANNULUS HEIGHT AT EXIT				.	
824		EW	1.579	.	.		2.37	-1.53	SLANT H/h=0.5	.	.	
825			"	.	.		"	"		.	.	
826			2.425	.	.		3.83	-1.06		.	.	RADIAL TRAVS. ON x/D_{eq} = -1.53,
827			"	.	.		"	"		.	.	-1.06, -0.72 AND -0.52,
828			3.210	.	.		5.18	-0.72		.	.	RESPECTIVELY
829			"	.	.		"	"		.	.	
830			4.040	.	.		6.01	-0.52		.	.	
831			"	.	.		"	"		.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-69. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 5/28/82

MODEL = 6 P_r = 3.216 V_j = 1704 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1613 T_T = 852 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
832		SLANT AX	-		5.856	13.255	.		SLANT r'/h=0.5	.	.	SLANT-AX. TRAVS.
833			-				.			.	.	ON r'/h = 0.5
	1851		4.760				7.85			1530	104	
	1852		4.189				6.86			1562	117	
	1853		3.655				5.95			1599	131	
	1854		3.109				5.00			1632	103	
	1855		2.539				4.03			1663	95	HISTO. MEASURED SLANT-AXIALLY
	1856		2.138				3.34			1637	121	ON r'/h=0.5
	1857		1.725				2.62			1681	129	
	1858		1.367				2.01			1629	101	
	1859		1.064				1.49			1675	117	
	1860		0.622				0.73			1670	124	
834			-		6.047		.		r'/h=1.0	.	.	SLANT-AX. TRAVS. ON r'/h=1.0
835			-				.			.	.	
	1861		0.343				0.25			1543	114	HISTO. MEASURED SLANT-AXIALLY
	1862		2.759				4.40			1523	166	ON r'/h=1.0

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-69. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 5/28/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 6 P_r = 3.216 V_j = 1704 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1613 T_T = 852 °R $V_{a/c}$ = 0 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1863	SLANT AX	3.164		6.047	13.255	5.10		SLANT r'/h=1.0	1569	138	
	1864		3.519				5.71			1591	123	
	1865		3.908				6.38			1627	101	
	1866		4.233				6.94			1593	110	HISTO. MEASURED SLANT-AXIALLY
	1867		4.478				7.36			1559	122	ON r'/h = 1.0
	1868		4.797				7.91			1434	111	
	1869		4.890				8.07			1601	109	
	1870		5.095				8.42			1522	131	
836			.		6.147		.		r'/h=1.25	.	.	
837			.		"		.		"	.	.	
838			.		6.245		.		r'/h = 1.5	.	.	SLANT-AX. TRAVS. ON r'/h = 1.25,
839			.		"		.		"	.	.	1.5 AND 0.84, RESPECTIVELY
840			.		5.989		.		r'/h = 0.84	.	.	
841			.		"		.		"	.	.	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-70. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER

TEST DATE 6/3/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 6 P_r = 3.215 V_j = 1706 Ft/Sec D_{eq} = 5.03 in.

TEST POINT = 1614 T_T = 853 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 in.

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Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.183	7.383	13.727	PLUG TIP			.	.	
842		AX		-	7.383			.	.0	.	.	AX. TRAVS. ON r/Deq = 0 AND 0.48, RESPECTIVELY
843				-	"			.	"	.	.	
844				-	8.065			.	0.48	.	.	
845				.				.		.	.	
	1871			2.155				-0.40		1575	91	HISTO. MEASURED AXIALLY ON r/Deq = 0.48
	1872			2.195				0.16		1571	116	
	1873			2.235				0.73		1436	113	
	1874			2.275				1.29		1466	98	
	1875			2.315				1.85		1462	82	
	1876			2.355				2.42		1421	102	
	1877			2.395				2.98		1445	85	
	1878			2.435				3.54		1436	86	
	1879			2.475				4.10		1359	126	
	1880			2.515				4.67		1409	101	
	1881			2.555				5.23		1402	100	

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-70. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 6/3/82

MODEL = 6 P_r = 3.215 V_j = 1706 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1614 T_T = 853 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1882	AX		2.595	8.065	13.727		5.79	0.48	1382	111	
	1883			2.635				6.36		1345	125	
	1884			2.675				6.92		1314	127	
	1885			2.715				7.48		1291	142	HISTO. MEASURED AXIALLY
	1886			2.755				8.04		1279	143	ON r/D_{eq} = 0.48
	1887			2.795				8.61		1243	154	
	1888			2.835				9.17		1220	151	
	1889			2.875				9.73		1212	155	
	1890			2.915				10.29		1186	172	
846		EW		2.182	.			0	-	.	.	
847				"	.			"	-	.	.	RADIAL TRAVS. ON x/D_{eq} = 0
848				2.324	.			1.98	-	.	.	AND 1.98, RESPECTIVELY
849					.				-	.	.	
	1891				6.398				-0.60	1130	159	HISTO. MEASURED RADIALLY
	1892				6.760				-0.36	1523	75	ON x/D_{eq} = 1.98
	1893				7.080				-0.15	1457	99	

NOMENCLATURE

P_r = Pressure Ratio
T_T = Total Temperature
V_j = Fully Expanded Jet Velocity
$V_{a/c}$ = Free Jet Velocity
D_{eq} = Equivalent Diameter
h = Annulus Height

TABLE 5-70. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 6/3/82

ORIGINAL PAGE IS OF POOR QUALITY

MODEL = 6 P_r = 3.215 V_j = 1706 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1614 T_T = 853 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1894	EW		2.324	7.346	13.727		1.98	0.03	1326	89	
	1895				7.738				0.28	1452	74	HISTO. MEASURED RADIALLY
	1896				8.008				0.46	1498	79	ON X/Deq = 1.98 (CONTINUED)
	1897				8.373				0.68	845	172	
	1898				NOT RECORDED				-			
850				2.638	-			6.4				
851				"	-			"				RADIAL TRAVS. ON X/Deq = 6.4
852				2.790	-			8.5				AND 8.5, RESPECTIVELY
853					-							
	1899				6.373				-0.61	1083	183	
	1900				7.300				0.02	-	-	
	1901				7.300				0.02	1383	80	HISTO. MEASURED RADIALLY
	1902				8.165				0.57	1160	176	ON X/Deq = 8.5
	1903				8.389				0.72	974	186	
	1904				6.020				-0.85	884	181	
	1905				6.624				-0.45	1278	148	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-70. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 6/3/82

MODEL = 6 P_r = 3.215 V_j = 1706 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1614 T_T = 853 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Position (Volts) Axial	Position (Volts) EW	Position (Volts) NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1906	EW		2.790	6.829	13.727		8.5	-0.31	1365	101	
	1907				7.106				-0.13	1391	85	
	1908				7.587				0.19	1402	80	HISTO. MEASURED RADIALLY
	1909				7.888				0.39	1353	118	ON x/D_{eq} = 8.5
	1910				8.662				0.90	768	170	
	1911				5.820				-0.98	709	148	
854				3.094				12.8				RADIAL TRAVS. ON x/D_{eq} = 12.8
855												

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TEST DATE 6/3/82

TABLE 5-70. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

MODEL = 6 P_r = 3.215 V_j = 1706 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1614 T_T = 853 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
		REF	0.200	2.043	5.649	13.782	MID-POINT OF ANNULUS HEIGHT AT EXIT					
856		EW	0.404		·		0.35	-1.92	SLANT r'/h = 0.5	·	·	
857			"		·		"	"		·	·	
858			1.597		·		2.40	-1.41		·	·	
859			"		·		"	"		·	·	RADIAL TRAVS. ON x/D_{eq} = -1.92,
860			2.425		·		3.88	-1.05		·	·	-1.41, -1.05, -0.72 AND 0.37,
861			"		·		"	"		·	·	RESPECTIVELY.
862			3.210		·		5.18	-0.72		·	·	
863			"		·		"	"		·	·	
864			4.040		·		6.61	0.37		·	·	
865			"		·		"	"		·	·	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

TABLE 5-70. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Continued)

TEST DATE 6/3/82

MODEL = 6 P_r = 3.215 V_j = 1706 Ft/Sec D_{eq} = 5.03 in.

TEST POINT = 1614 T_T = 853 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 in.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
866		SLANT AX	-		5.732	13.212	.		SLANT r/h = 0.2	.	.	SLANT-AX. TRAVS. ON r/h=0.2 AND 1.0, RESPECTIVELY
867			-		"		.		"	.	.	
868			-		6.043		.		r/h = 1.0	.	.	
869			-				.			.	.	
	1912		4.855				8.01			1593	119	HISTO. MEASURED SLANT-AXIALLY ON r/h=1.0
	1913		4.564				7.51			1528	115	
	1914		4.254				7.05			1584	120	
	1915		4.078				6.67			1604	114	
	1916		3.862				6.30			1636	101	
	1917		3.668				5.97			1617	120	
	1918		3.469				5.63			1625	106	
	1919		3.272				5.29			1621	52	
	1920		3.065				4.93			1640	102	
	1921		2.865				4.59			1629	165	
	1922		2.672				4.25			1604	99	
	1923		2.464				3.90			1601	98	

NOMENCLATURE

P_r = Pressure Ratio
V_j = Fully Expanded Jet Velocity
D_{eq} = Equivalent Diameter
T_T = Total Temperature
$V_{a/c}$ = Free Jet Velocity
h = Annulus Height

TABLE 5-70. **AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER** (Continued)

TEST DATE 6/3/82

MODEL = 6 P_r = 3.215 V_j = 1706 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1614 T_T = 853 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1924	SLANT-AX	2.276		6.043	13.212	3.57		SLANT r'/h=1.0	1528	127	
	1925		2.091				3.25			1518	140	
	1926		1.893				2.91			1483	176	
	1927		1.663				2.52			1466	169	
	1928		1.478				2.20			1299	214	HISTO. MEASURED SLANT-AXIALLY
	1929		1.272				1.84			1416	201	ON r'/h=1.0
	1930		1.083				1.52			1441	182	
	1931		0.868				1.15			1347	218	
	1932		0.253				0.09			1502	71	
	1933		0.477				0.48			1640	67	
	1934		0.679				0.82			1560	178	
870			-		5.849		-		r'/h=0.5	-		SLANT-AX. TRAVS. ON r'/h=0.5
871			-				-			-		
	1935		4.356				7.15			1432	116	
	1936		3.499				5.68			1526	125	HISTO. MEASURED SLANT-AXIALLY
	1937		2.997				4.81			1600	96	ON r'/h=0.5

NOMENCLATURE

P_r = Pressure Ratio

T_T = Total Temperature

V_j = Fully Expanded Jet Velocity

$V_{a/c}$ = Free Jet Velocity

D_{eq} = Equivalent Diameter

h = Annulus Height

TABLE 5-70. AERODYNAMIC TEST RESULTS BY LASER DOPPLER VELOCIMETER (Concluded)

TEST DATE 6/13/82

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MODEL = 6 P_r = 3.215 V_j = 1706 Ft/Sec D_{eq} = 5.03 In.

TEST POINT = 1614 T_T = 853 °R $V_{a/c}$ = 400 Ft/Sec h = 1.29 In.

Graph No.	Histo No.	Type of Traverse	Position (Volts) Slant Axial	Axial	EW	NS	Slant Ax. Pos. x'/h	Axial Posit. x/D_{eq}	Radial Posit. r/D_{eq}	Mean Velocity Ft/Sec	Turb. Velocity Ft/Sec	Remarks
	1938	SLANT-AX	2.488		5.849	13.212	3.94		SLANT r'/h=0.5	1630	86	
	1939		2.148				3.35			1611	77	
	1940		1.746				2.66			1694	54	HISTO. MEASURED SLANT-AXIALLY
	1941		1.394				2.05			1590	56	ON r'/h=0.5
	1942		1.119				1.58			1707	85	
	1943		0.795				1.02			1608	77	
	1944		0.486				0.49			-	-	
	1945		0.273				0.12			1593	119	-
872			-		6.237		-		r'/h=1.5	-	-	SLANT-AX. TRAVS. ON r'/h=1.5
873			-		"		-		"	-	-	

NOMENCLATURE

P_r = Pressure Ratio V_j = Fully Expanded Jet Velocity D_{eq} = Equivalent Diameter

T_T = Total Temperature $V_{a/c}$ = Free Jet Velocity h = Annulus Height

5.2.3 Laser Velocimeter Data of Model 1

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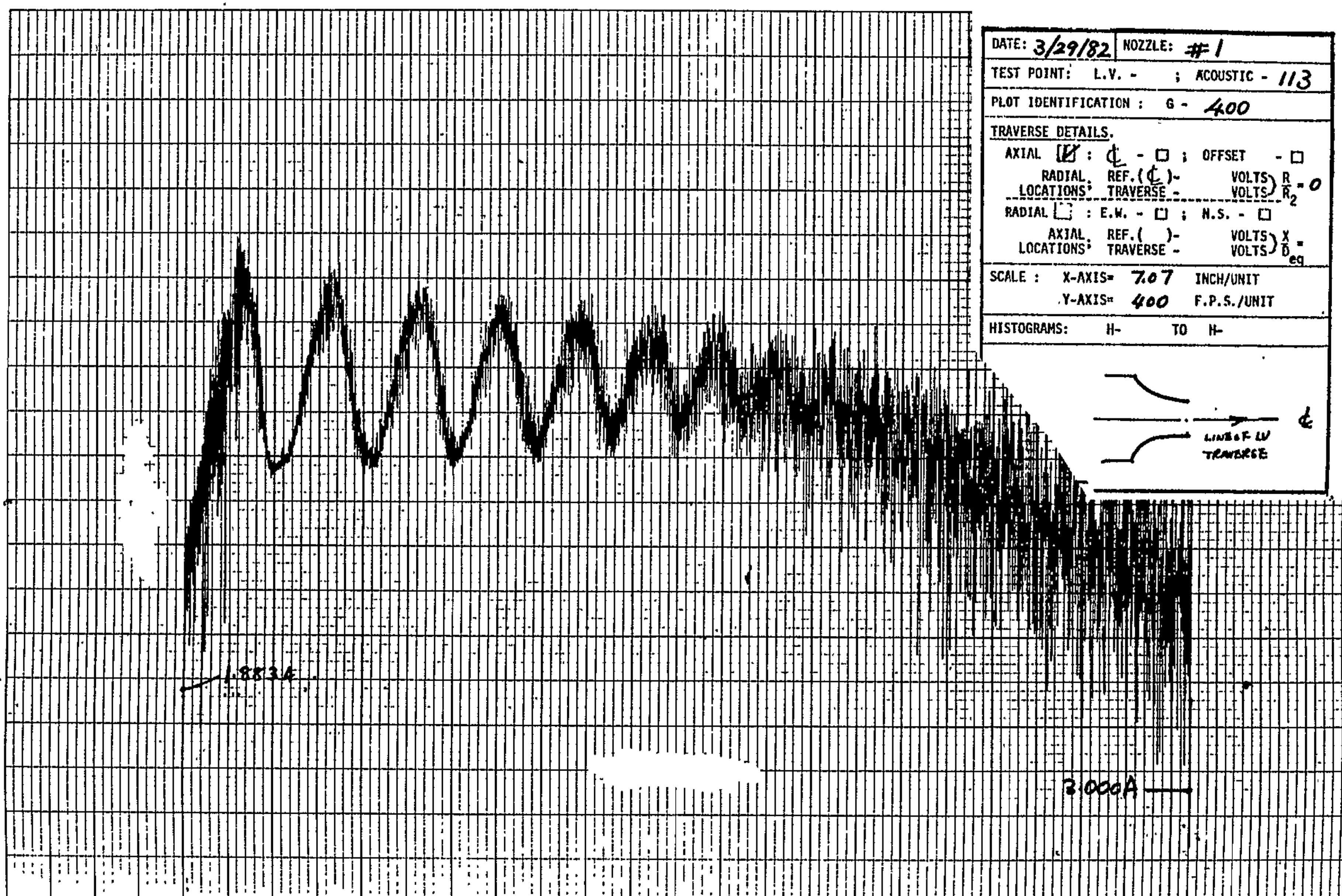
Model 1
Test Point 113

1-2



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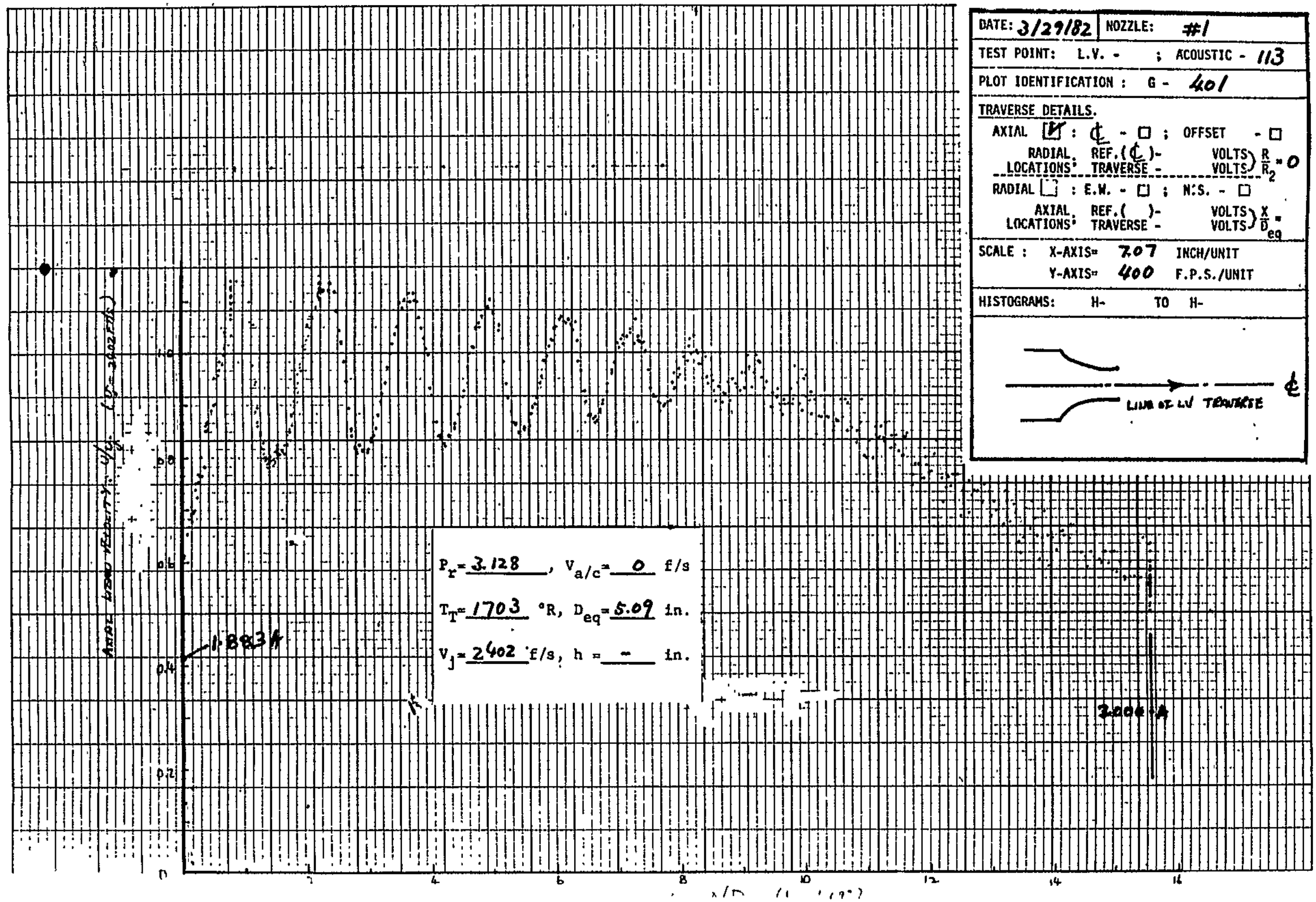

DATE: 3/29/82 NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 113
PLOT IDENTIFICATION : G - 401
TRAVERSE DETAILS.
AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) R/R2 = 0
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) X/Deq =
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 400 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
P_r = 3.128 , $V_{a/c}$ = 0 f/s
T_T = 1703 °R, D_{eq} = 5.09 in.
V_j = 2402 f/s, h = - in.
Axial mean velocity, U/V_j (V_j = 2402 ft/s)
1.883A
3.006 A
0
0.2
0.4
0.6
0.8
1.0
2
4
6
8
10
12
14
16
X/D

DATE: 3/29/82 NOZZLE: SC #1

TEST POINT: L.V. - : ACOUSTIC - 113

PLOT IDENTIFICATION : G - 402

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

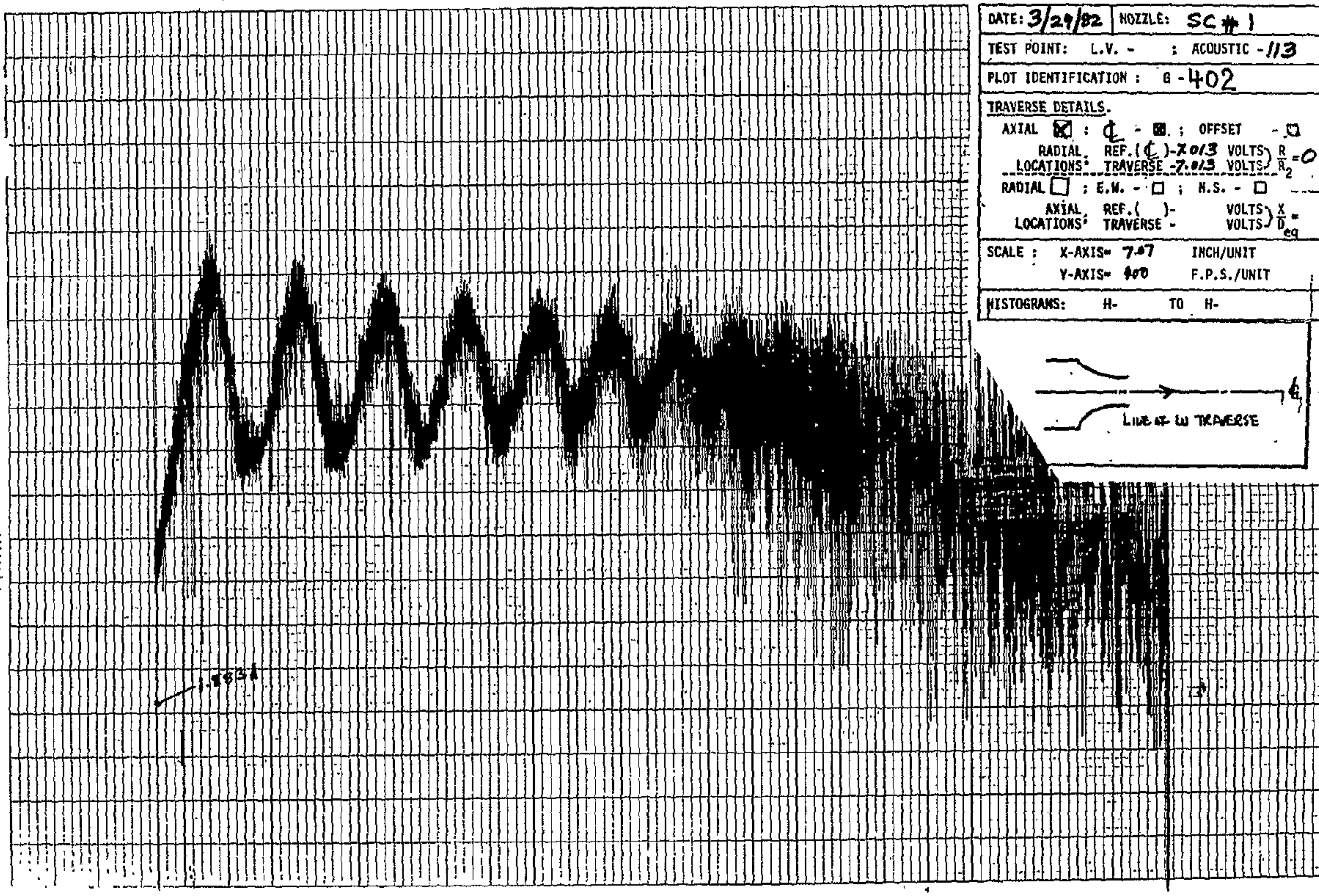
RADIAL LOCATIONS: REF. (℄) - 7.013 VOLTS; TRAVERSE - 7.013 VOLTS; $\frac{R}{R_2}$ = 0

RADIAL ☐ ; E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 7.07 INCH/UNIT; Y-AXIS = 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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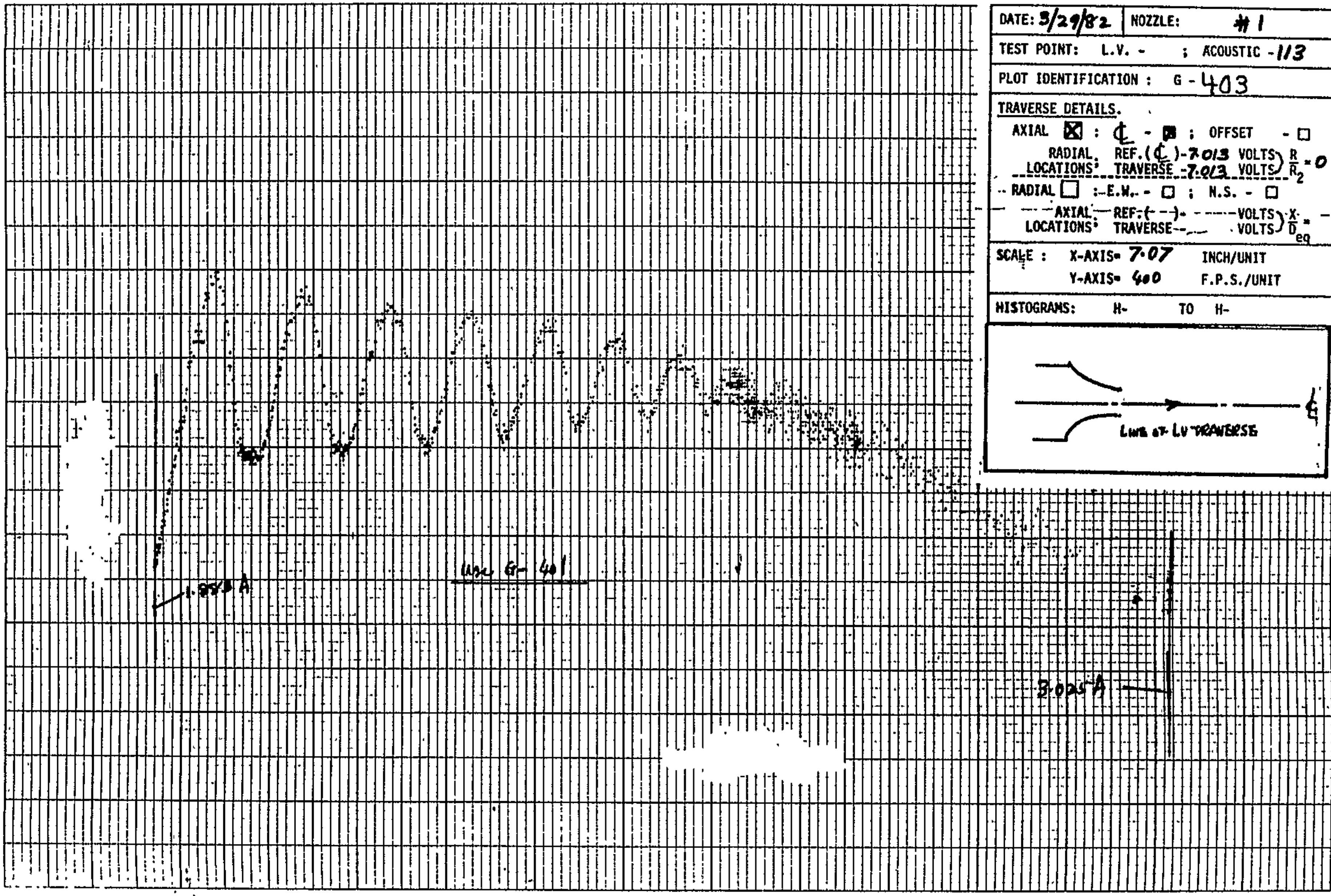

DATE: 3/29/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 113
PLOT IDENTIFICATION : G - 403
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄) - 7.013 VOLTS, TRAVERSE - 7.013 VOLTS $\frac{R}{R_2}$ = 0
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF. (-) - VOLTS, TRAVERSE - VOLTS $\frac{X}{D_{eq}}$ =
SCALE : X-AXIS = 7.07 INCH/UNIT
Y-AXIS = 400 F.P.S./UNIT
HISTOGRAMS: H- TO H-
Line of LV traverse
1.875 A
Use G-401
3.025 A

776

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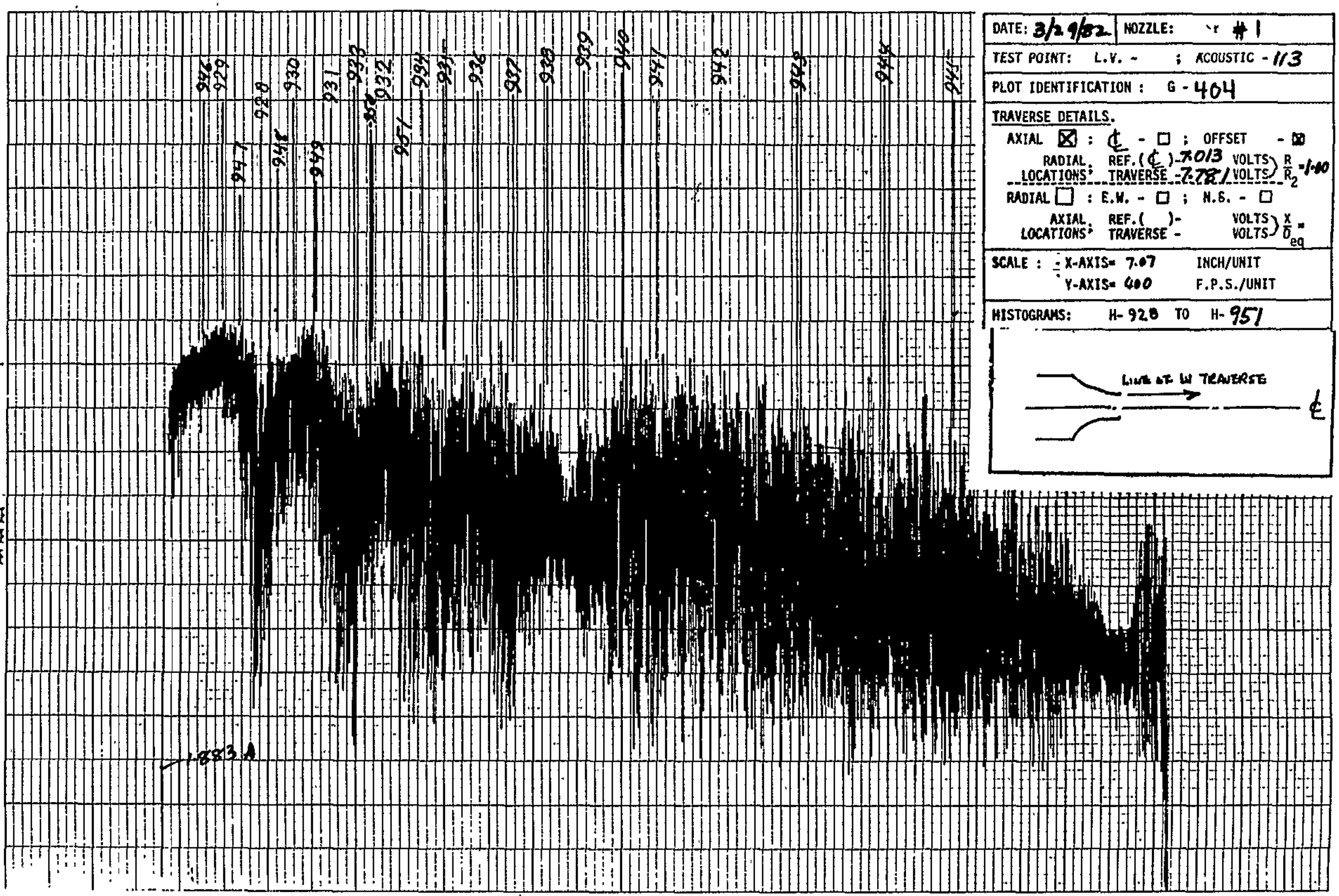

DATE: 3/29/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 113
PLOT IDENTIFICATION : G - 404
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒
RADIAL LOCATIONS: REF. (℄) - 7.013 VOLTS; TRAVERSE - 7.781 VOLTS; R/R2 = 1.00
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS; X/Deq =
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 400 F.P.S./UNIT
HISTOGRAMS: H-928 TO H-951
LINE OF W TRAVERSE
℄
926
929
947
928
948
930
949
931
933
950
932
951
934
935
936
937
938
939
940
941
942
943
944
945
1883 A

1-8

DATE: 3/29/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 113

PLOT IDENTIFICATION : G - 405

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄) 7.013 VOLTS; TRAVERSE 7.781 VOLTS; $\frac{R}{R_2}$ = 1.00

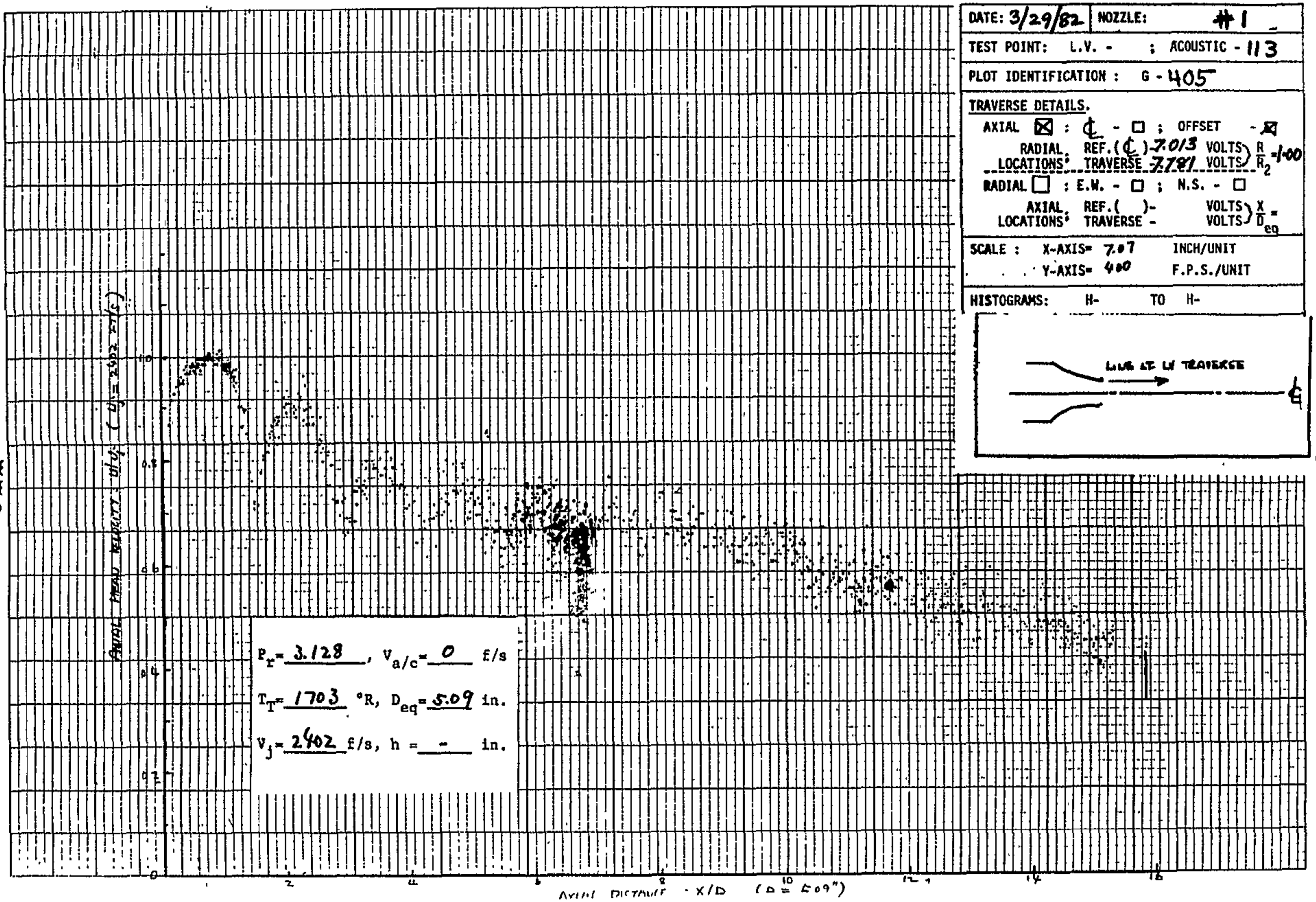
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-



P_r = 3.128, $V_{a/c}$ = 0 f/s

T_T = 1703 °R, D_{eq} = 5.09 in.

V_j = 2402 f/s, h = - in.

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No. XY 1101

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1-9

DATE: 3/29/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 113	
PLOT IDENTIFICATION : G-406	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

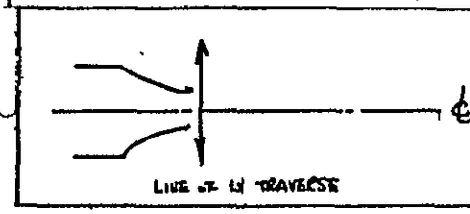
RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS $\frac{R}{R_2}$ =

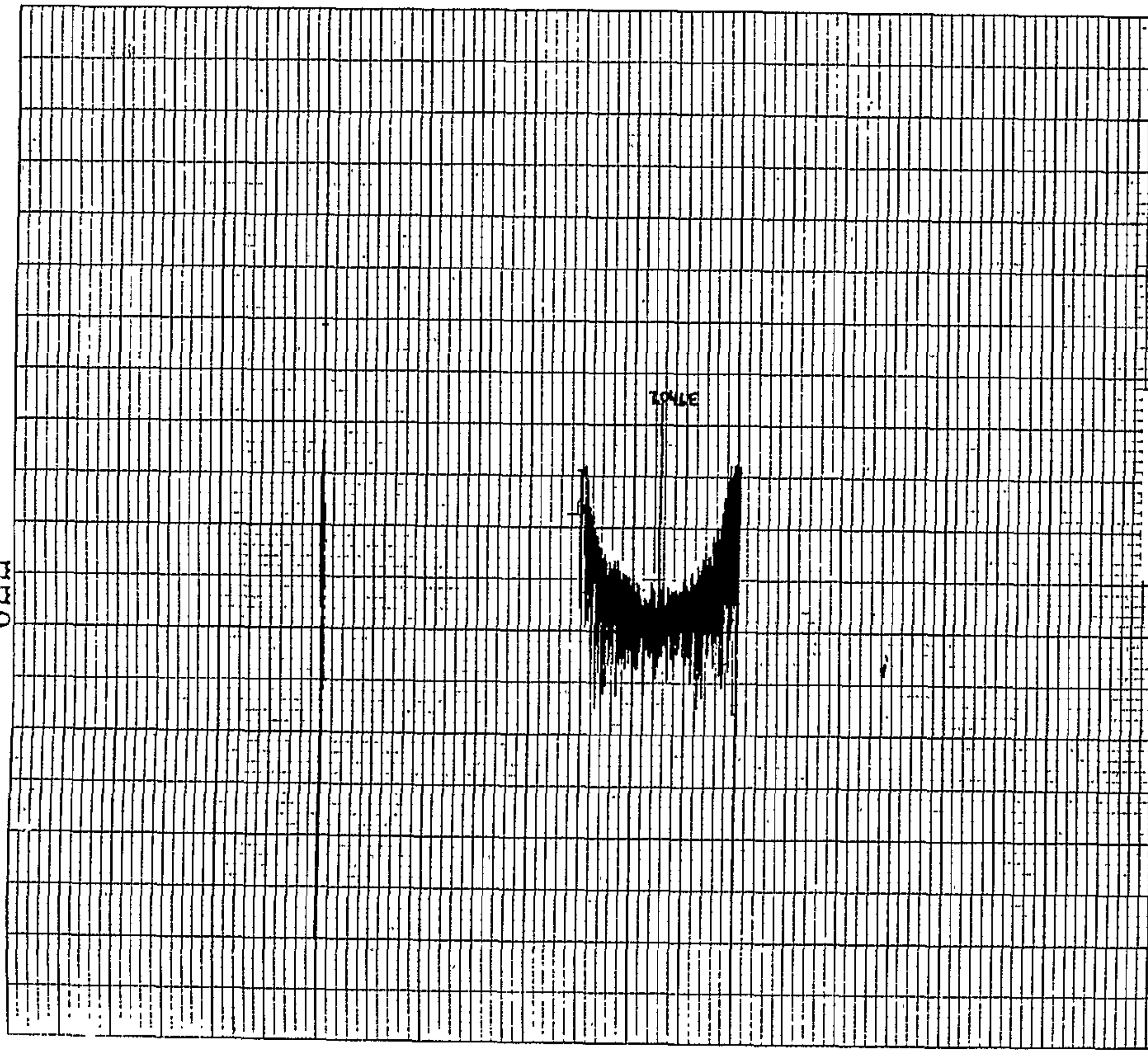
RADIAL ☒ : E.W. - ■ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.885 VOLTS; TRAVERSE - 1.891 VOLTS $\frac{X}{D_{eq}}$ = 0.08

SCALE : X-AXIS = 3.33 INCH/UNIT
Y-AXIS = 400. F.P.S./UNIT

HISTOGRAMS: H- TO H-





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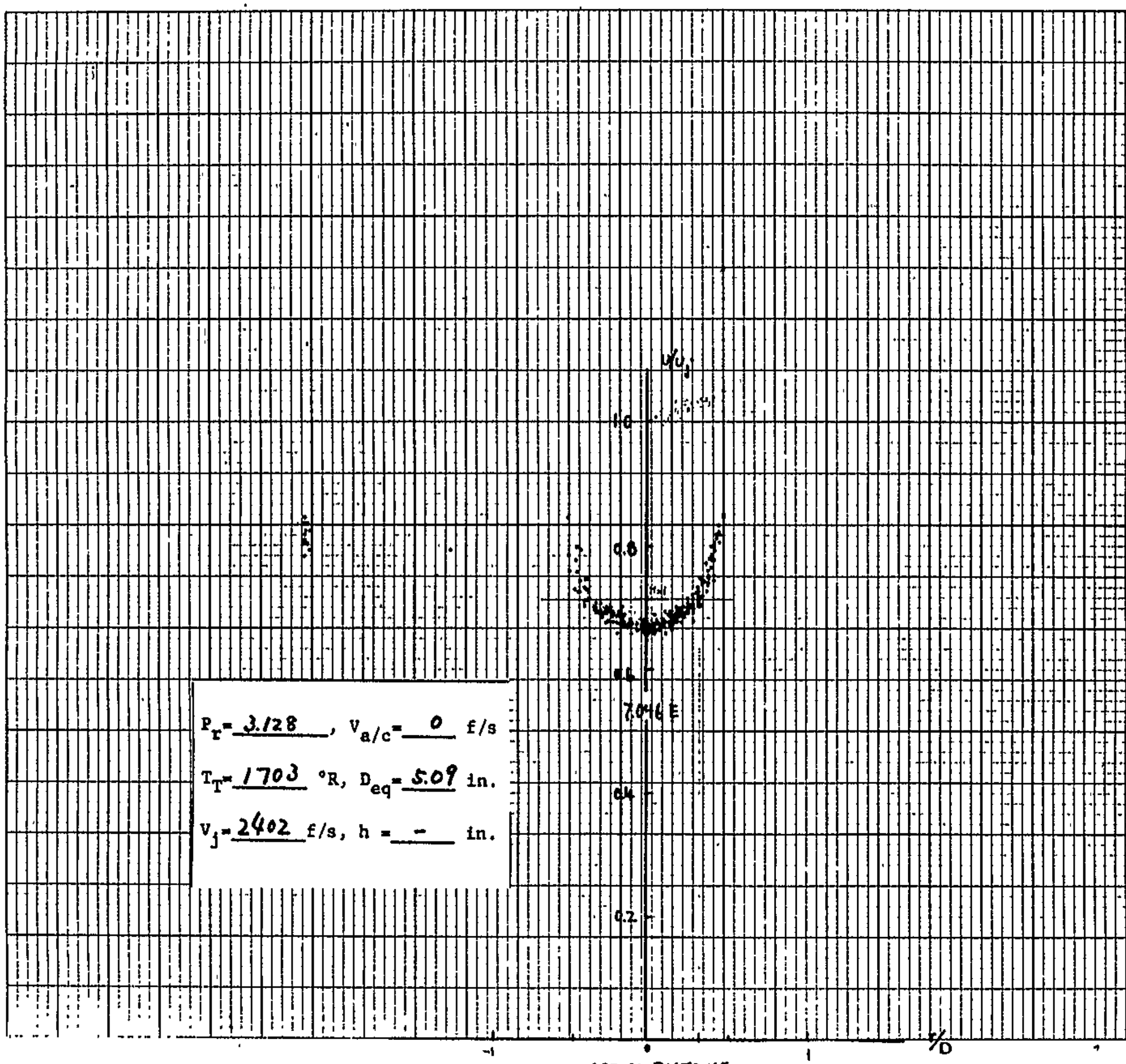


DATE: 3/29/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 113

PLOT IDENTIFICATION : G - 407

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

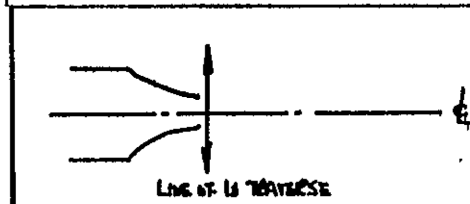
RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; R/R_2 =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) -1885 VOLTS; TRAVERSE -1891 VOLTS; X/D_{eq} = 0.08

SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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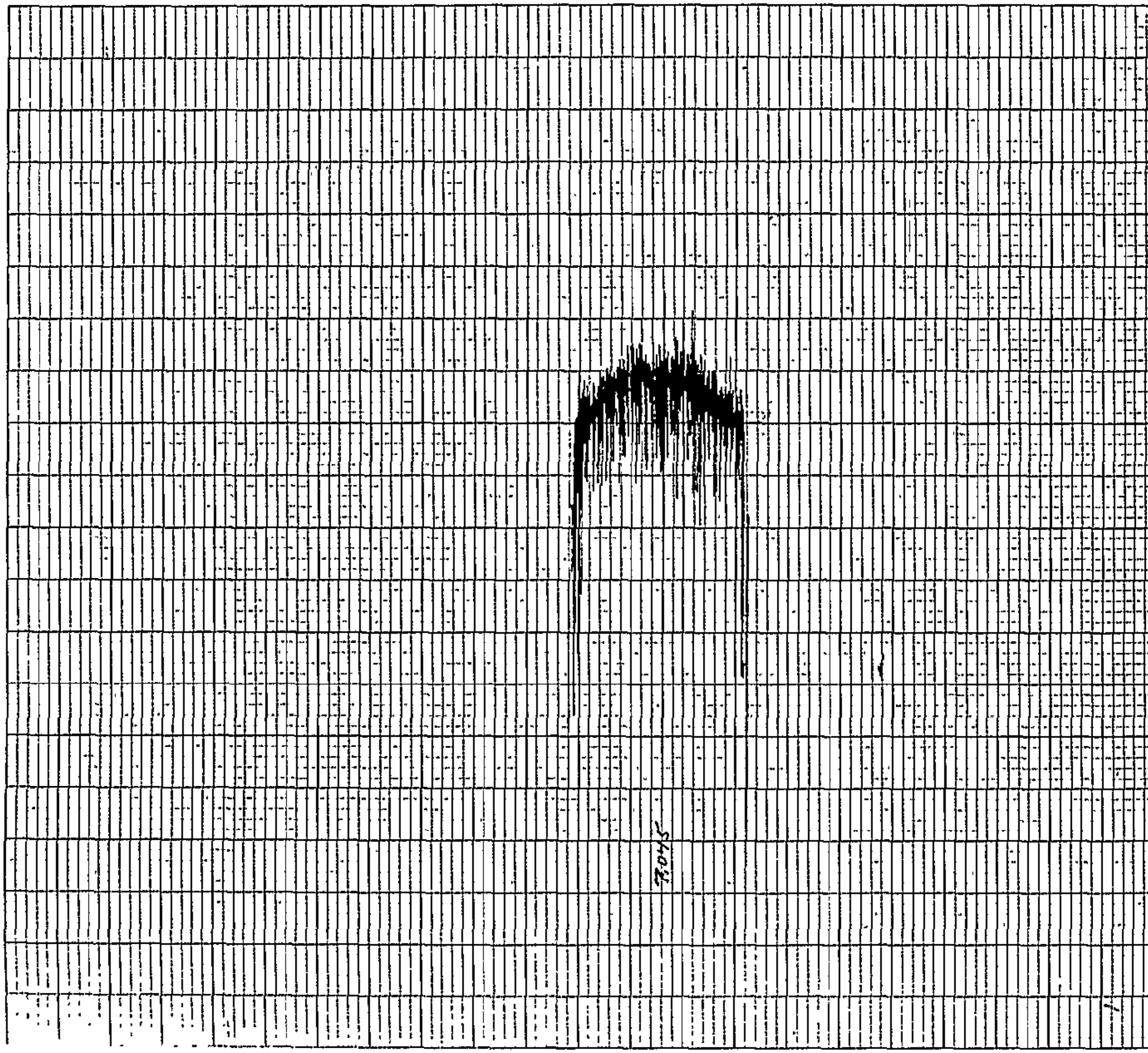
C-3



DATE: 3/29/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 113	
PLOT IDENTIFICATION : G - 408	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

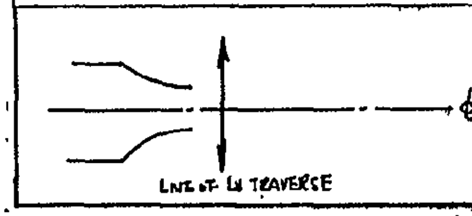
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.885 VOLTS; TRAVERSE - 1.962 VOLTS; $\frac{X}{D_{eq}}$ = 1.07

SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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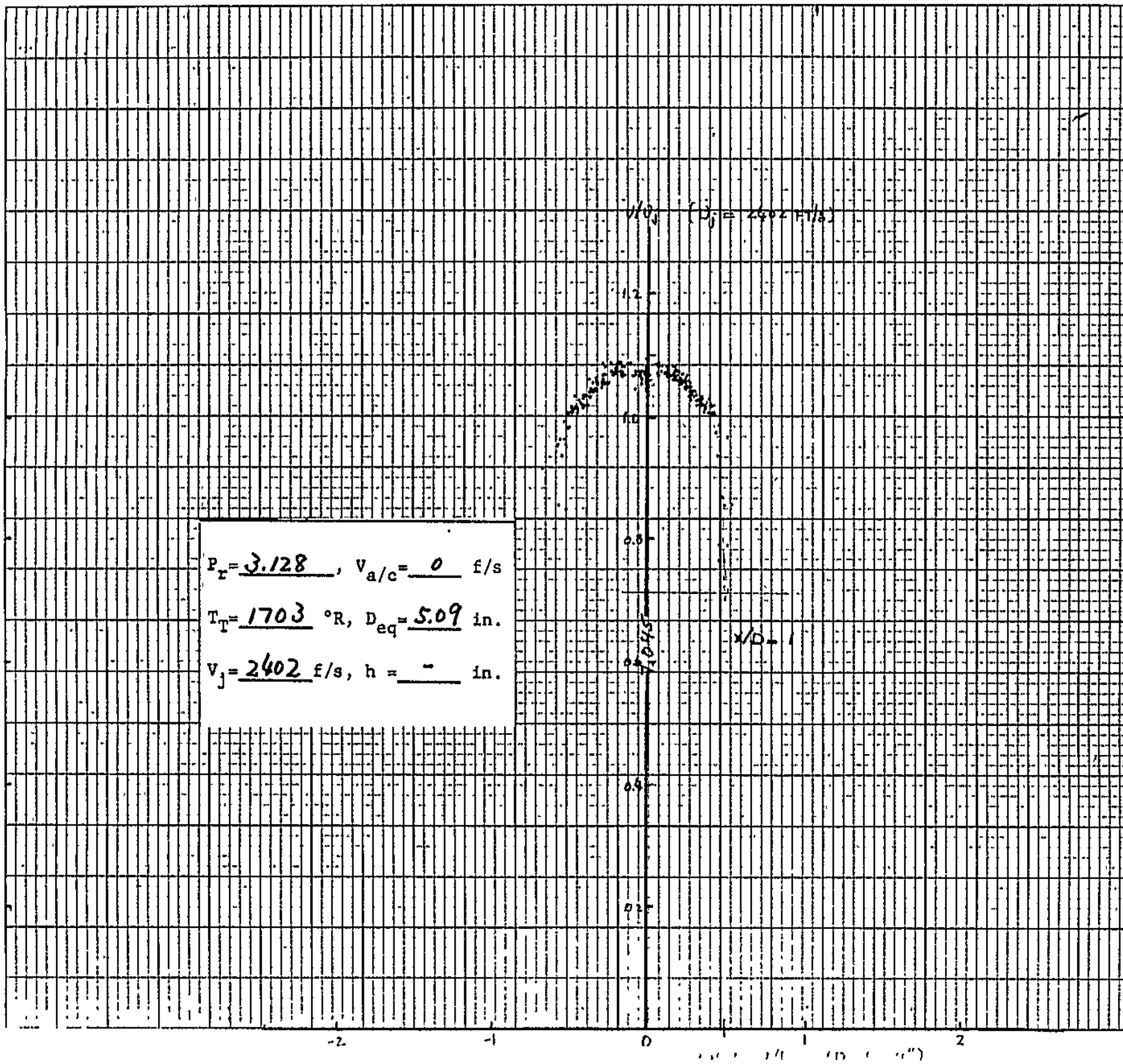


P_r = 3.128, $V_{a/c}$ = 0 f/s

T_T = 1703 °R, D_{eq} = 5.09 in.

V_j = 2402 f/s, h = - in.

DATE: 3/29/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 113	
PLOT IDENTIFICATION : G - 409	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - VOLTS, TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

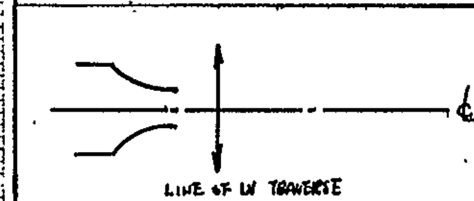
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (x=0) - 1.885 VOLTS, TRAVERSE - 1.962 VOLTS; $\frac{X}{D_{eq}}$ = 1.07

SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 3/29/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 113	
PLOT IDENTIFICATION : G - 410	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

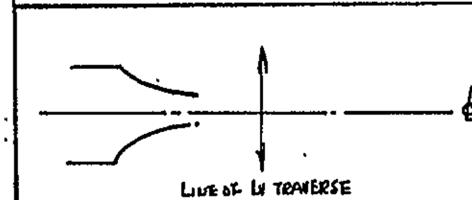
RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

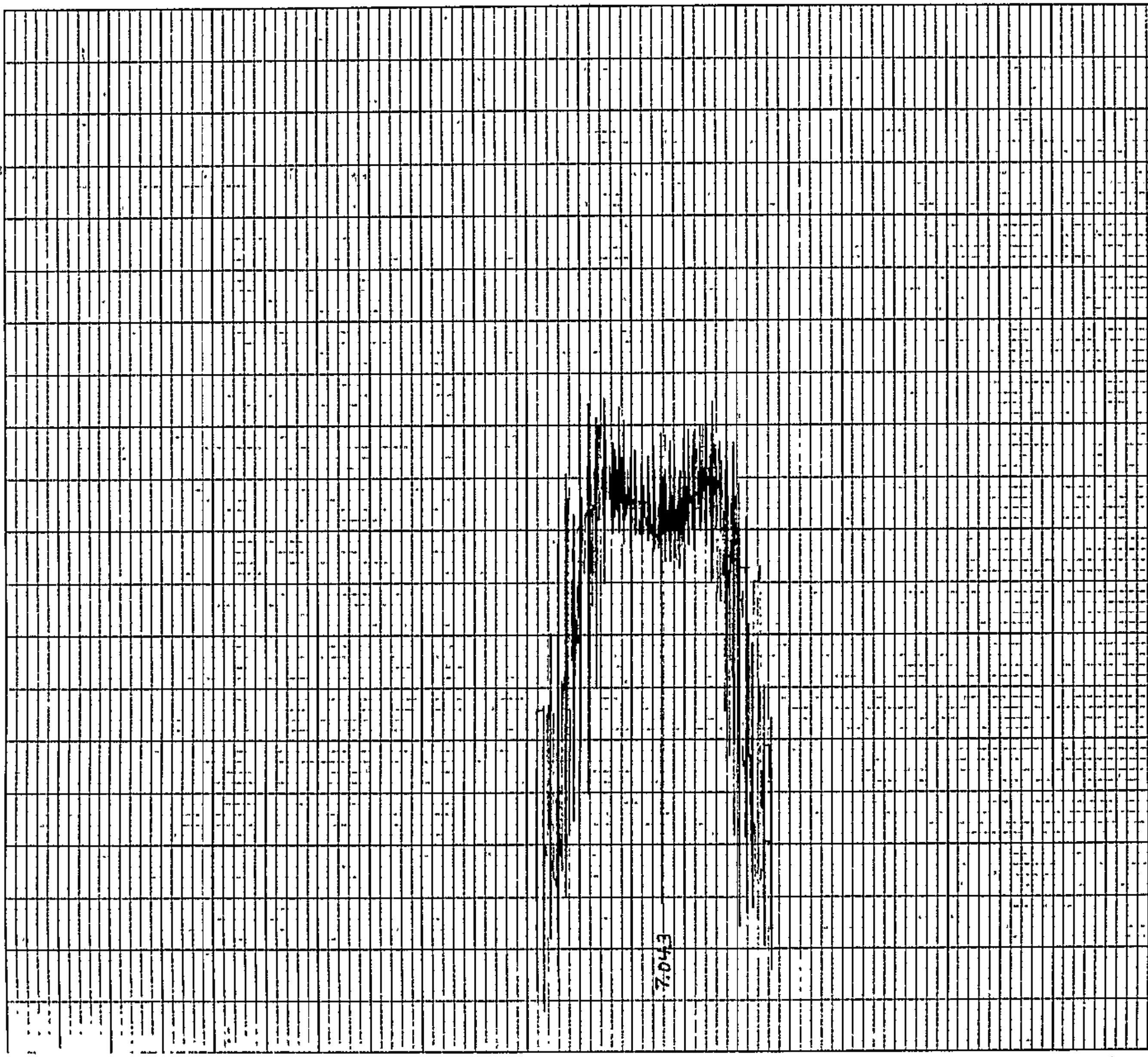
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.885 VOLTS; TRAVERSE - 2.194 VOLTS; $\frac{X}{D_{eq}}$ = 4.3

SCALE : X-AXIS = 3.33 INCH/UNIT; Y-AXIS = 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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DATE: 3/29/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 113

PLOT IDENTIFICATION : G - 411

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

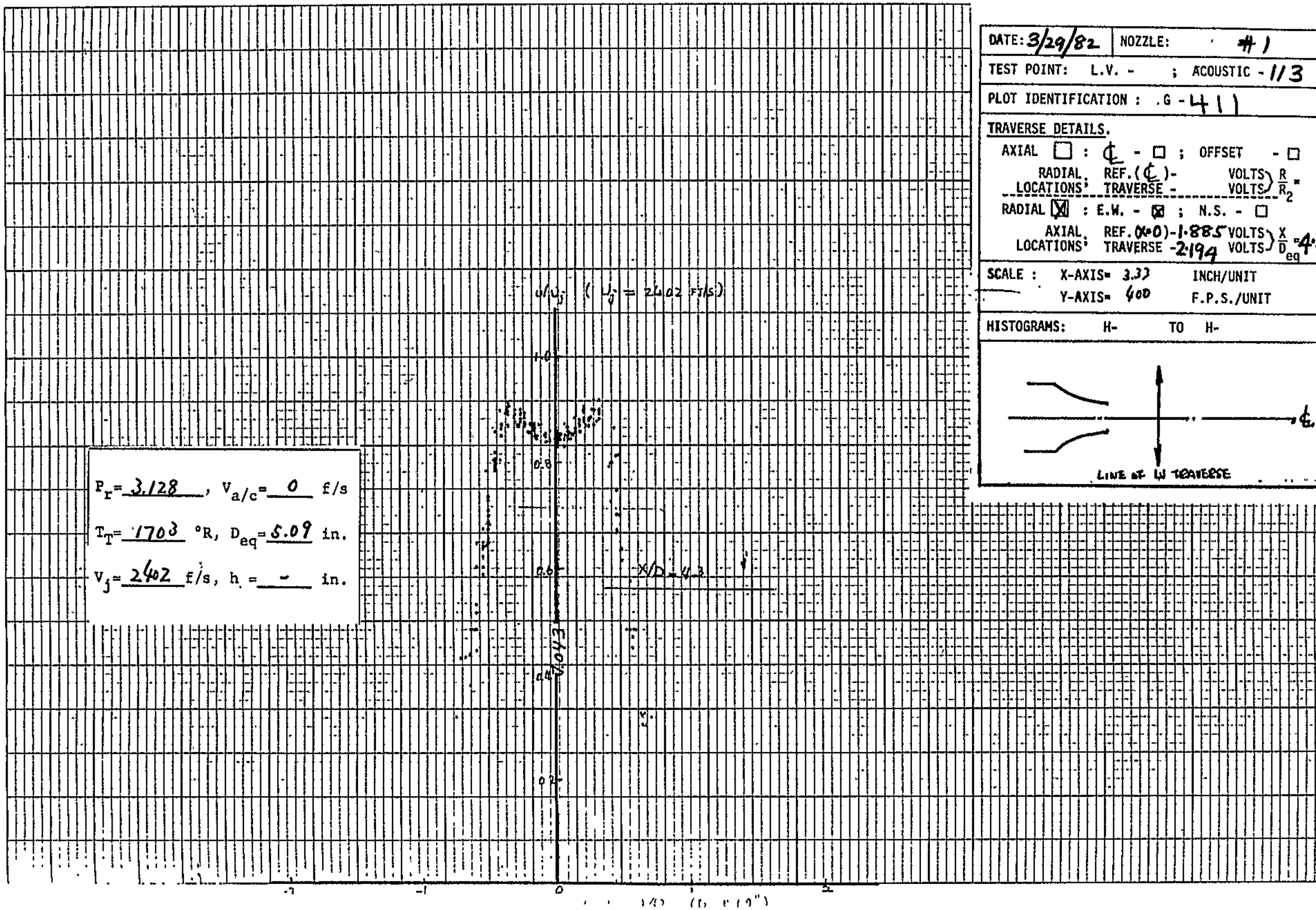
RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.885 VOLTS; TRAVERSE - 2.194 VOLTS; $\frac{X}{D_{eq}}$ = 4.3

SCALE : X-AXIS = 3.33 INCH/UNIT; Y-AXIS = 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-

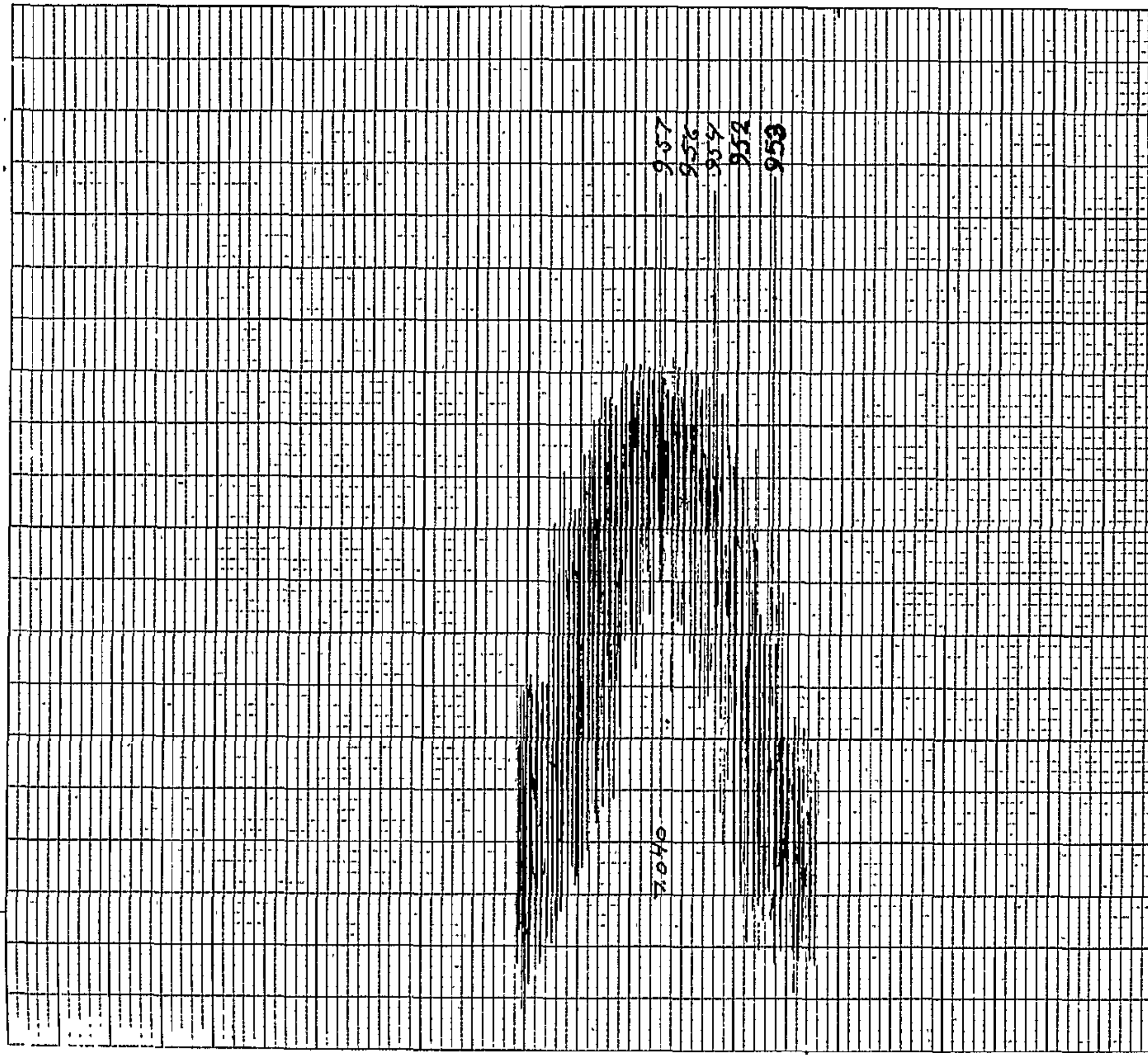


P_r = 3.128 , $V_{a/c}$ = 0 f/s

T_T = 1703 °R, D_{eq} = 5.09 in.

V_j = 2402 f/s, h = - in.

784



1-15

DATE: 3/29/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 113	
PLOT IDENTIFICATION : G - 412	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS; TRAVERSE - VOLTS; R/R_2 =

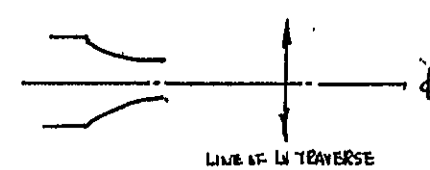
RADIAL ☒ : E.W. - × ; N.S. - ☐

AXIAL LOCATIONS: REF. [illegible] VOLTS; TRAVERSE - [illegible] VOLTS; X/D_{eq} = 8.6

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 400 F.P.S./UNIT

HISTOGRAMS: H-952 TO H-957



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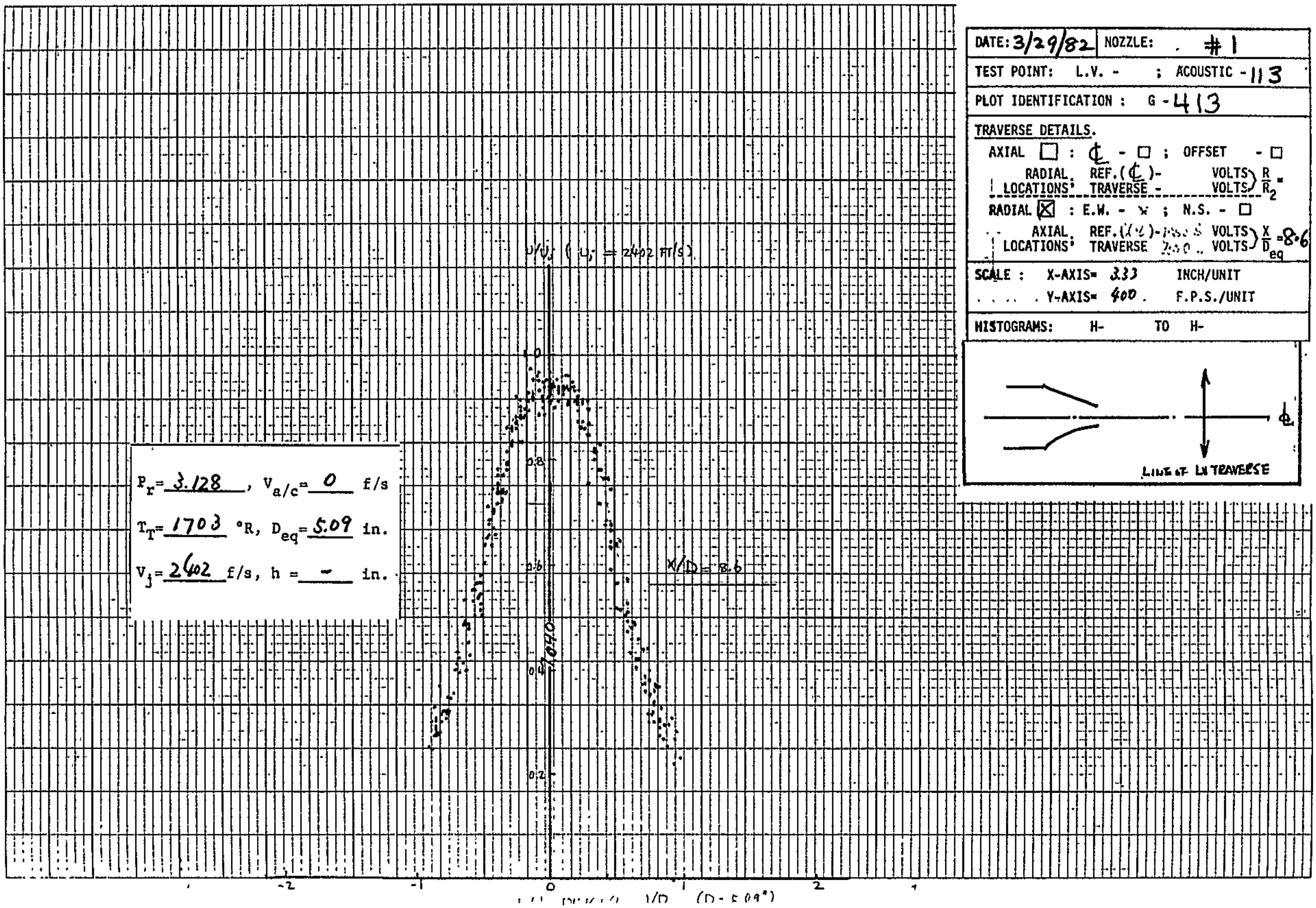


DATE: 3/29/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 113

PLOT IDENTIFICATION : G - 413

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - x ; N.S. - ☐

AXIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ = 8.6

SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-

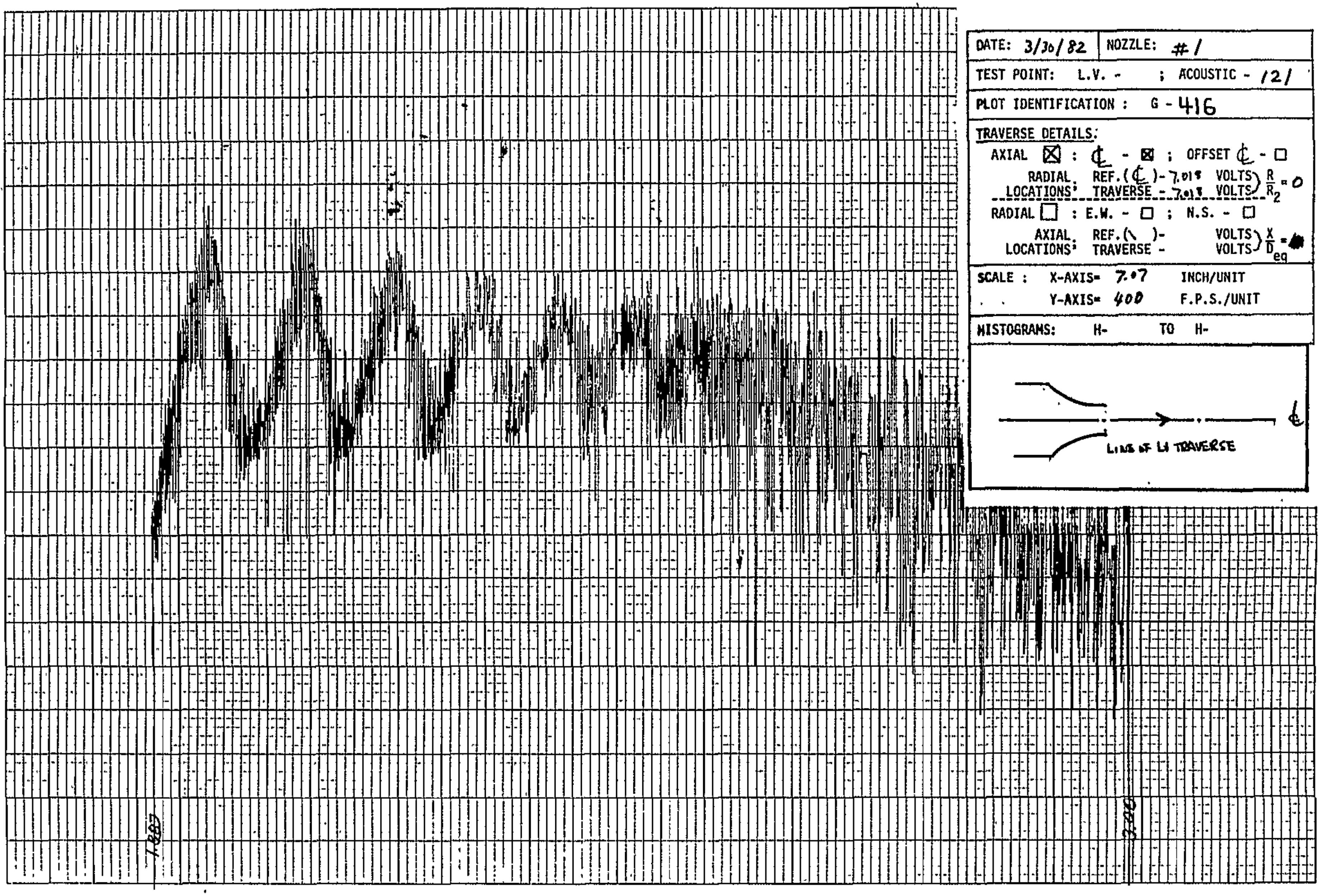
P_r = 3.128 , $V_{a/c}$ = 0 f/s

T_T = 1703 °R, D_{eq} = 5.09 in.

V_j = 2602 f/s, h = - in.

986

2-2



DATE: 3/30/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 121	
PLOT IDENTIFICATION : G - 416	

TRAVERSE DETAILS:

AXIAL ☒ : ℄ - ☒ ; OFFSET ℄ - ☐

RADIAL LOCATIONS: REF.(℄)-7.018 VOLTS; TRAVERSE - 7.018 VOLTS } $\frac{R}{R_2}=0$

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- VOLTS; TRAVERSE - VOLTS } $\frac{X}{D_{eq}}=$

SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

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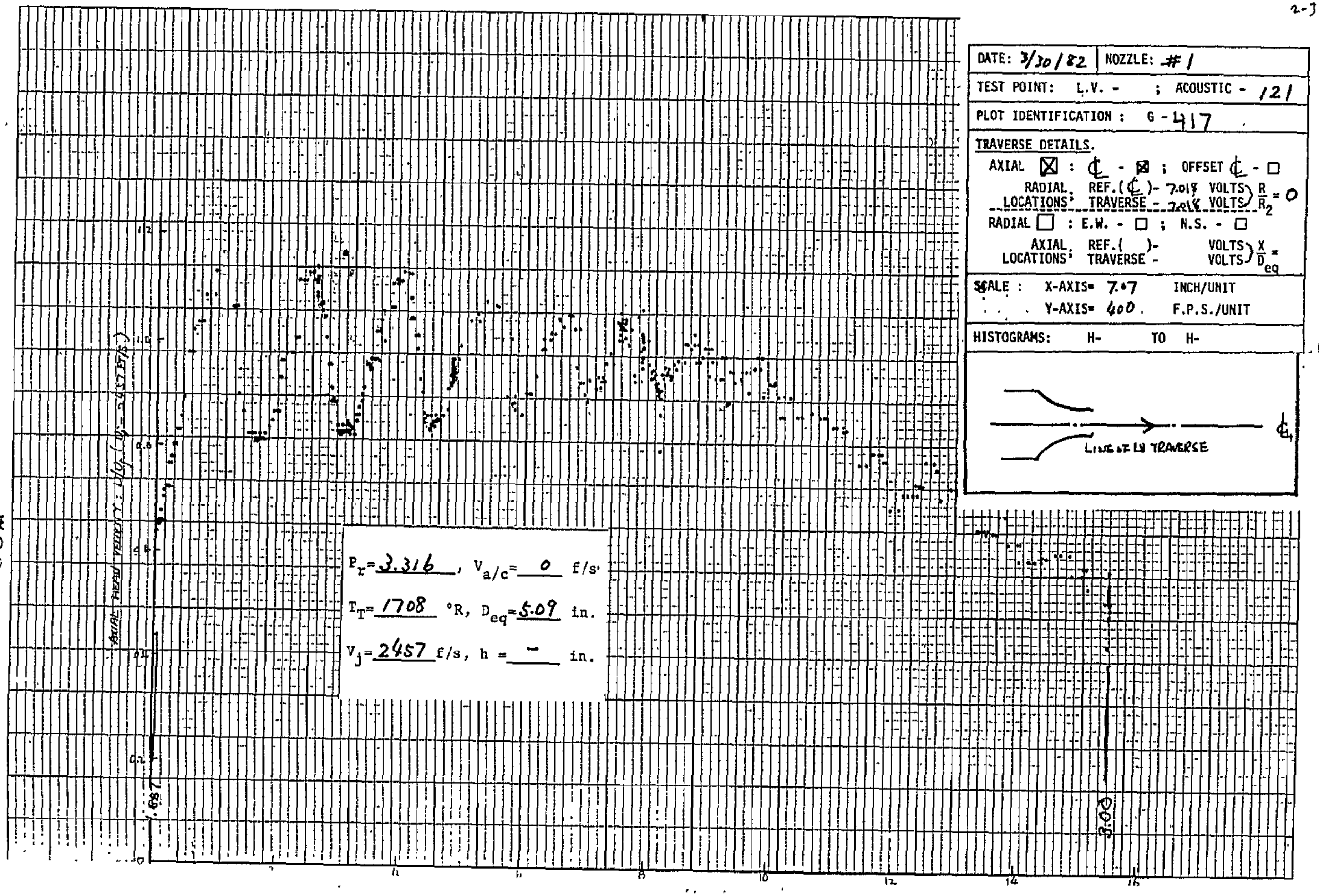
2-3



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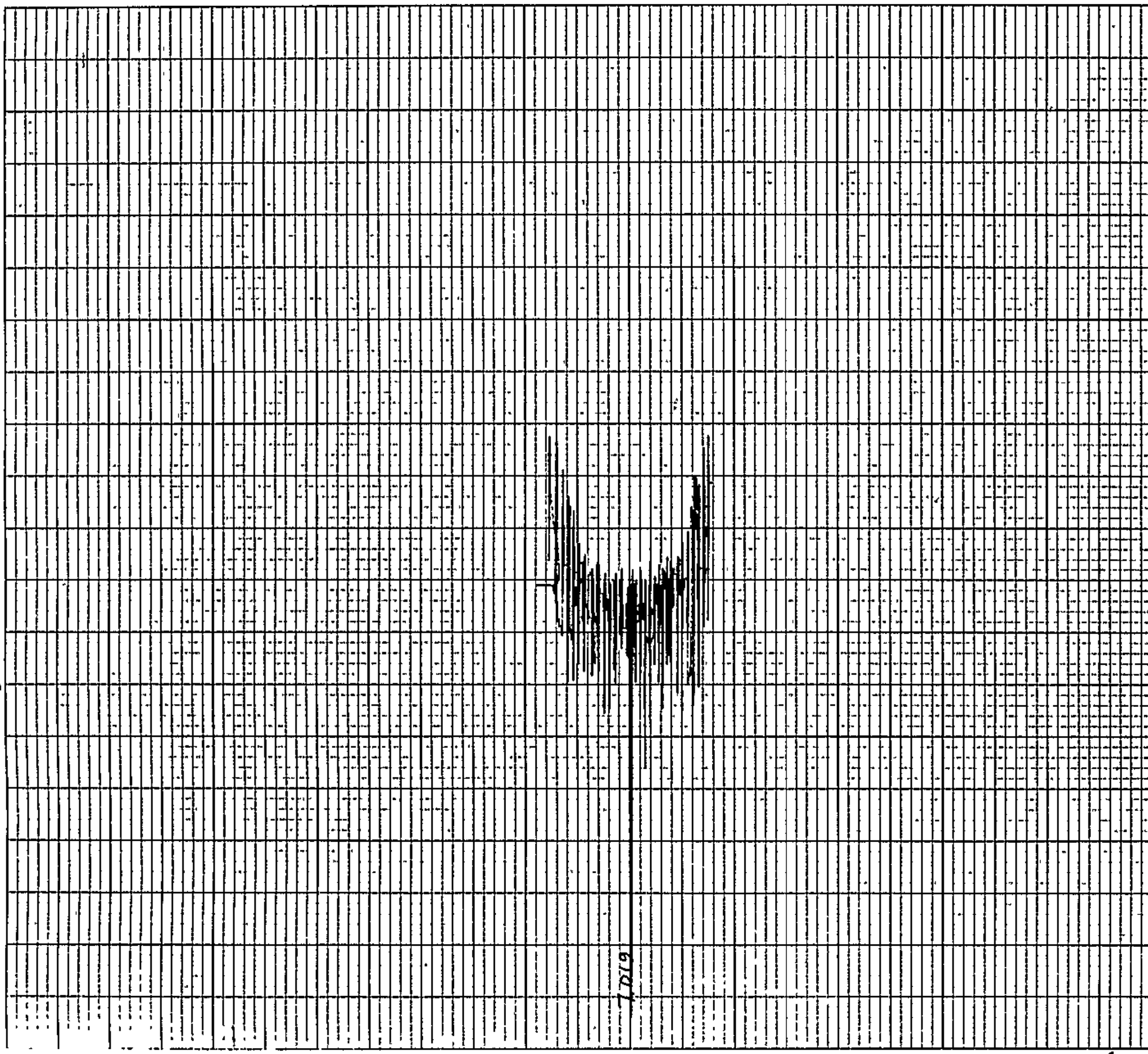


DATE: 3/30/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 121

PLOT IDENTIFICATION : G - 418

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET ℄ - ☐

RADIAL LOCATIONS: REF. (℄)- VOLTS; TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

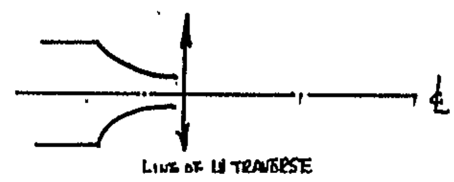
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0)- 1.887 VOLTS; TRAVERSE - 1.891 VOLTS } $\frac{X}{D_{eq}}$ = 0.1

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= .400 F.P.S./UNIT

HISTOGRAMS: H- TO H-



790

DATE: 3/30/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 121	
PLOT IDENTIFICATION : G - 419	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET ℄ - ☐

RADIAL LOCATIONS; REF.(℄)- VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

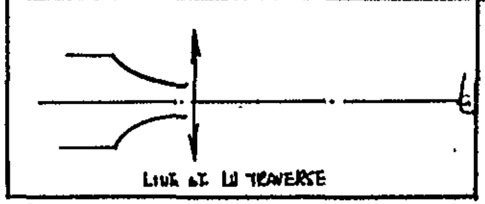
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

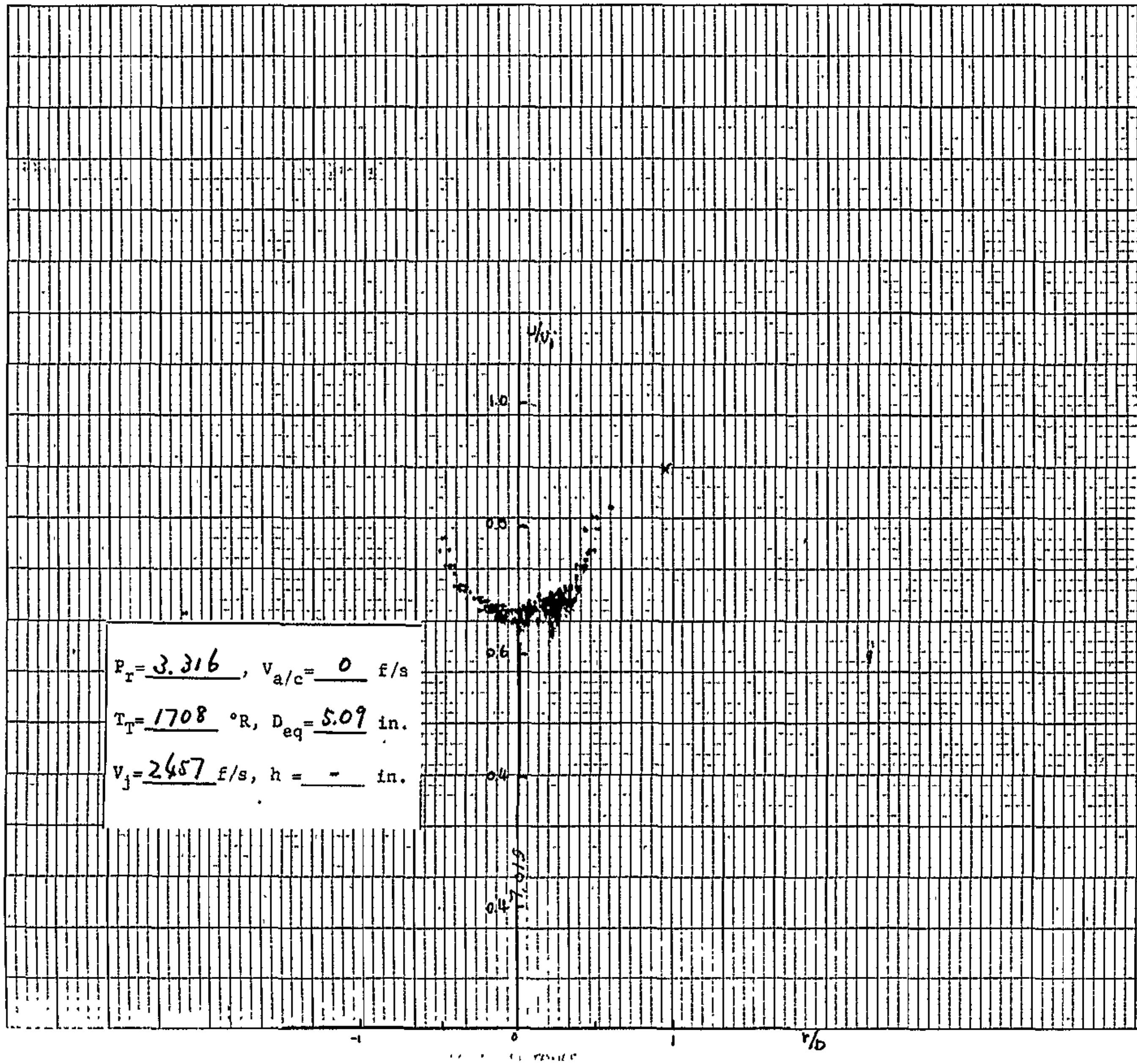
AXIAL LOCATIONS; REF.(X=0)- 1.887 VOLTS; TRAVERSE - 1.891 VOLTS; $\frac{X}{D_{eq}}$ = 0.1

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-





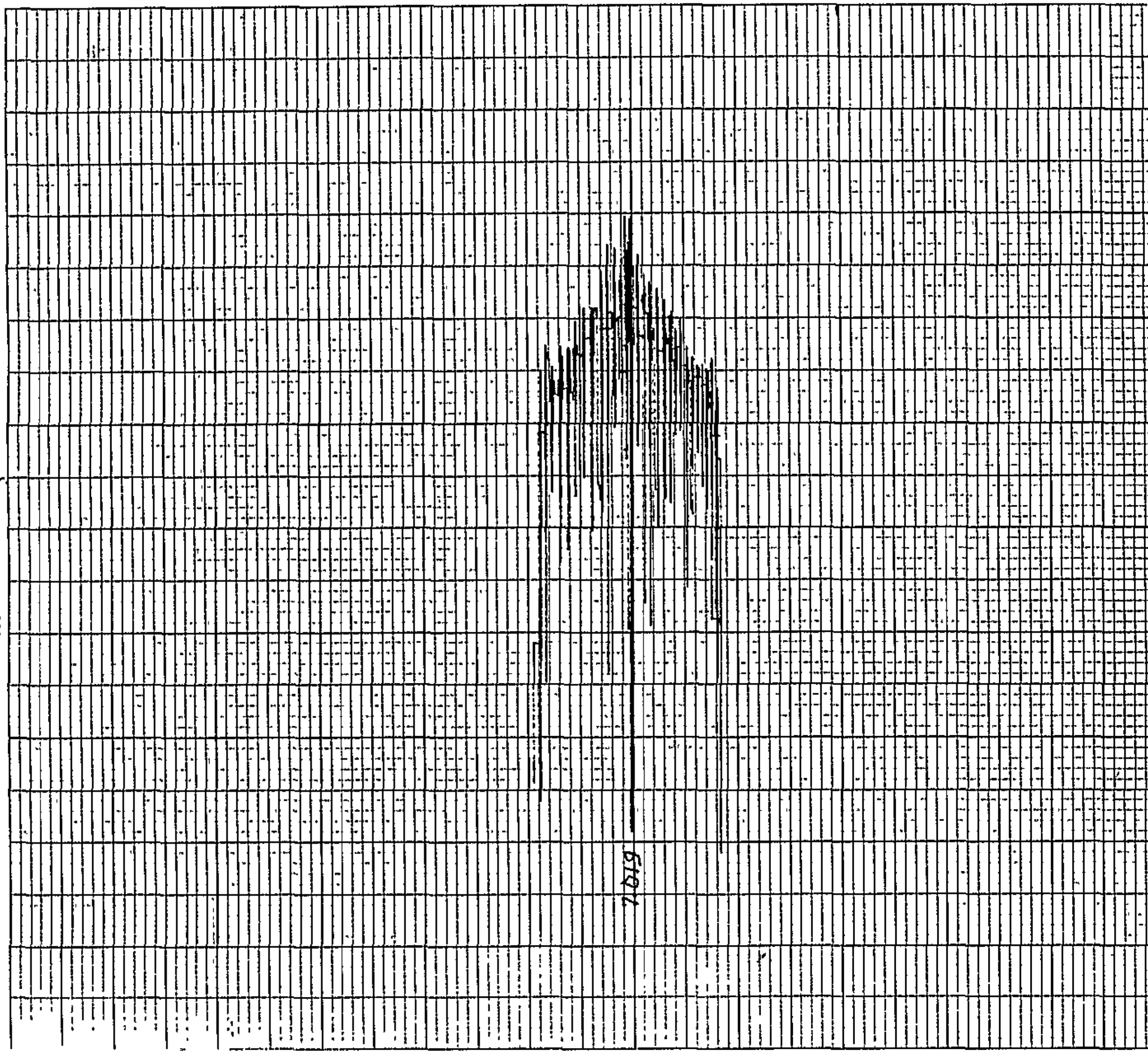
P_r = 3.316, $V_{a/c}$ = 0 f/s

T_T = 1708 °R, D_{eq} = 5.09 in.

V_j = 2457 f/s, h = - in.

791

2-6



DATE: 3/30/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 121	
PLOT IDENTIFICATION : G - 420	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET ℄ - ☐

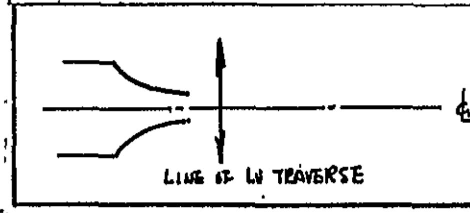
RADIAL LOCATIONS: REF.(℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.(X=0) - 1.884 VOLTS; TRAVERSE - 1.962 VOLTS; $\frac{X}{D_{eq}}$ = 1.1

SCALE : X-AXIS = 3.33 INCH/UNIT; Y-AXIS = 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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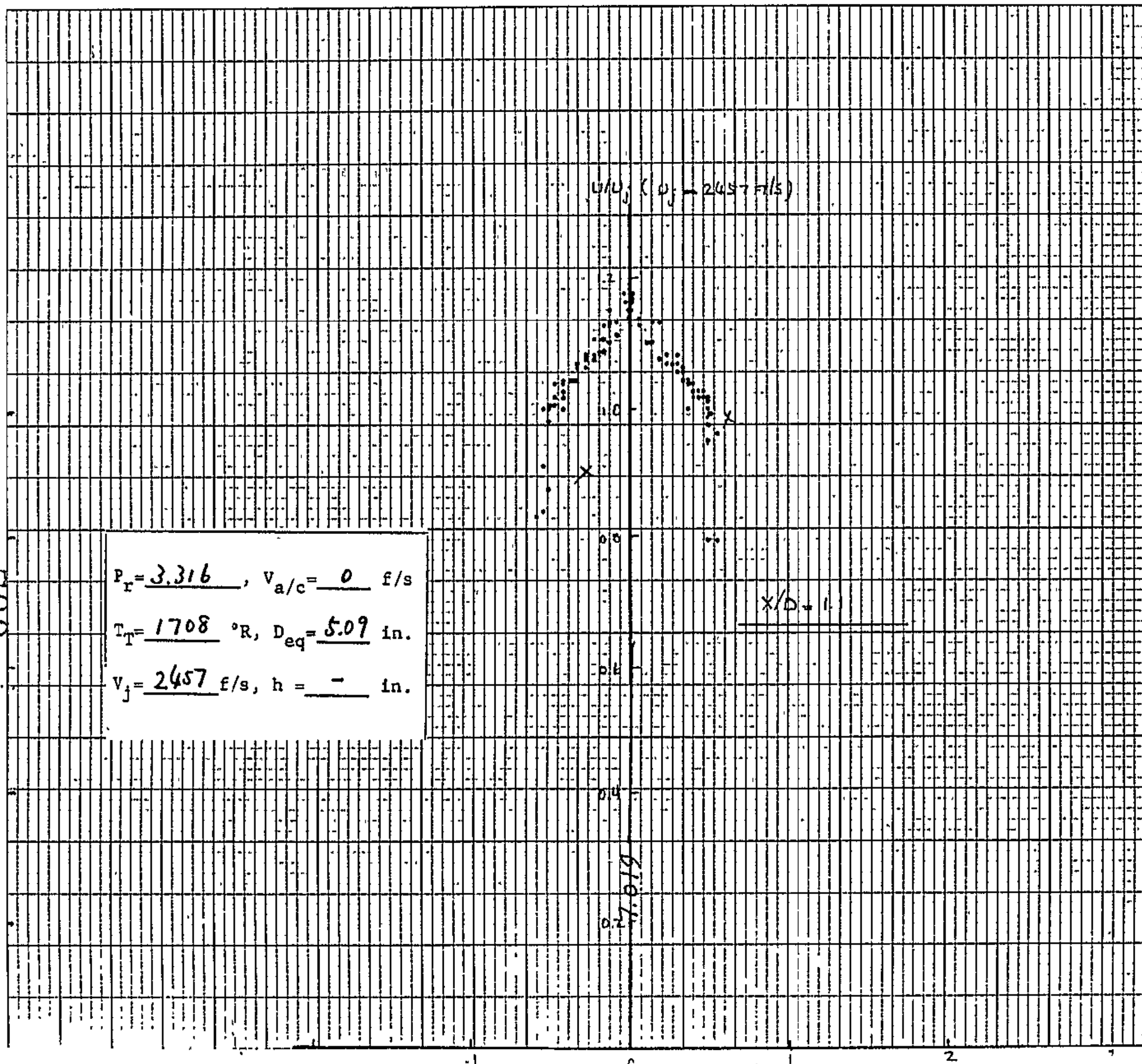
792



DATE: 3/30/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 121

PLOT IDENTIFICATION : G - 421

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET ℄ - ☐

RADIAL LOCATIONS: REF. (℄)- VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (Y=0)- 1.884 VOLTS; TRAVERSE - 1.962 VOLTS; $\frac{X}{D_{eq}}$ = 1.1

SCALE : X-AXIS= 3.33 INCH/UNIT; Y-AXIS= 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-

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793

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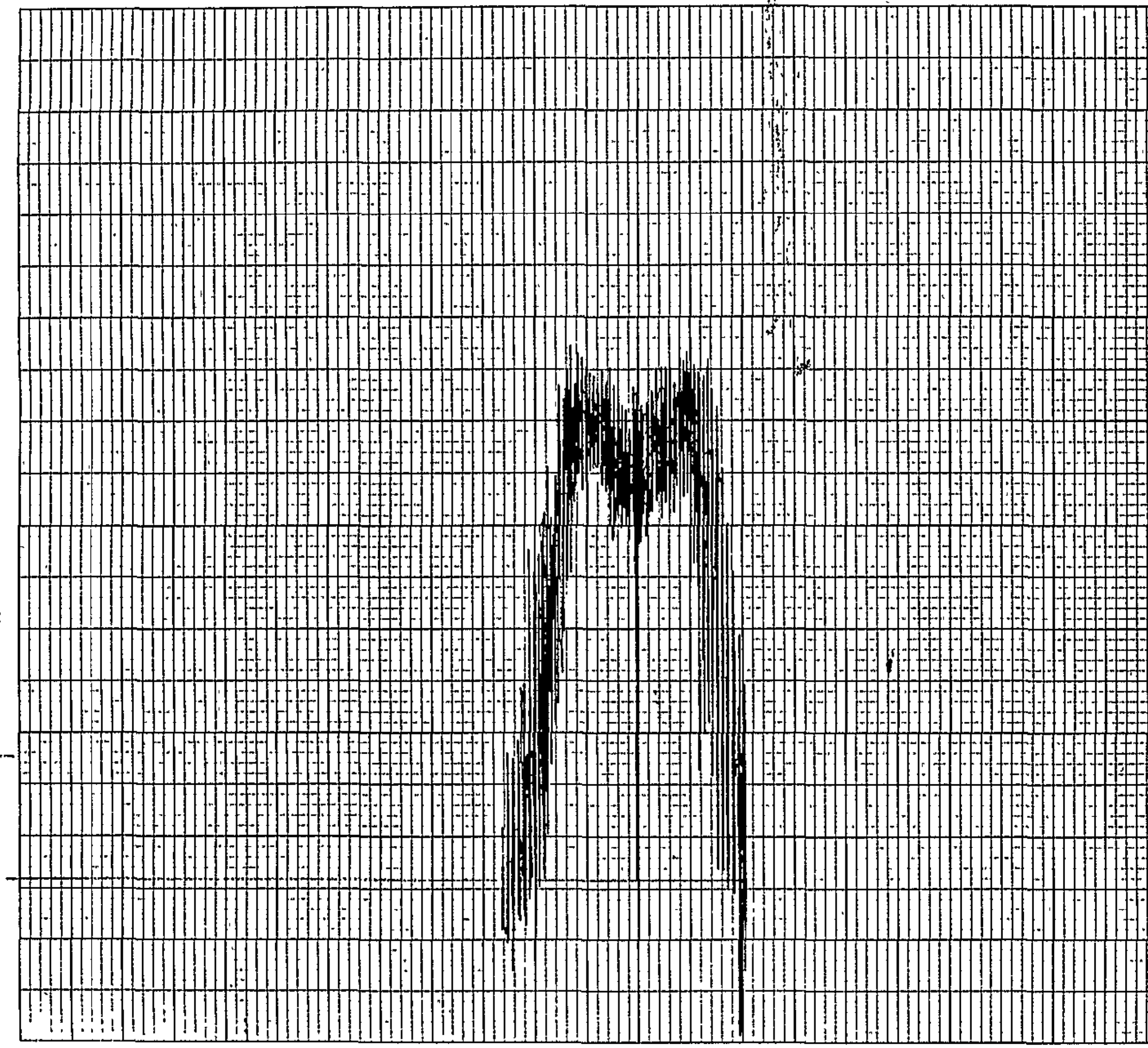


DATE: 3/30/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 121	
PLOT IDENTIFICATION : G - 422	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET ℄ - ☐

RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

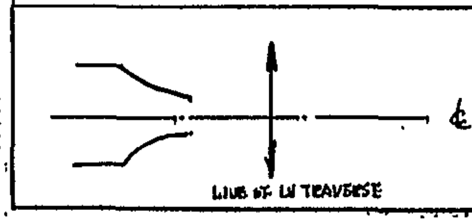
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (Y=0) - 1.884 VOLTS; TRAVERSE - 2.194 VOLTS; $\frac{X}{D_{eq}}$ = 4.2

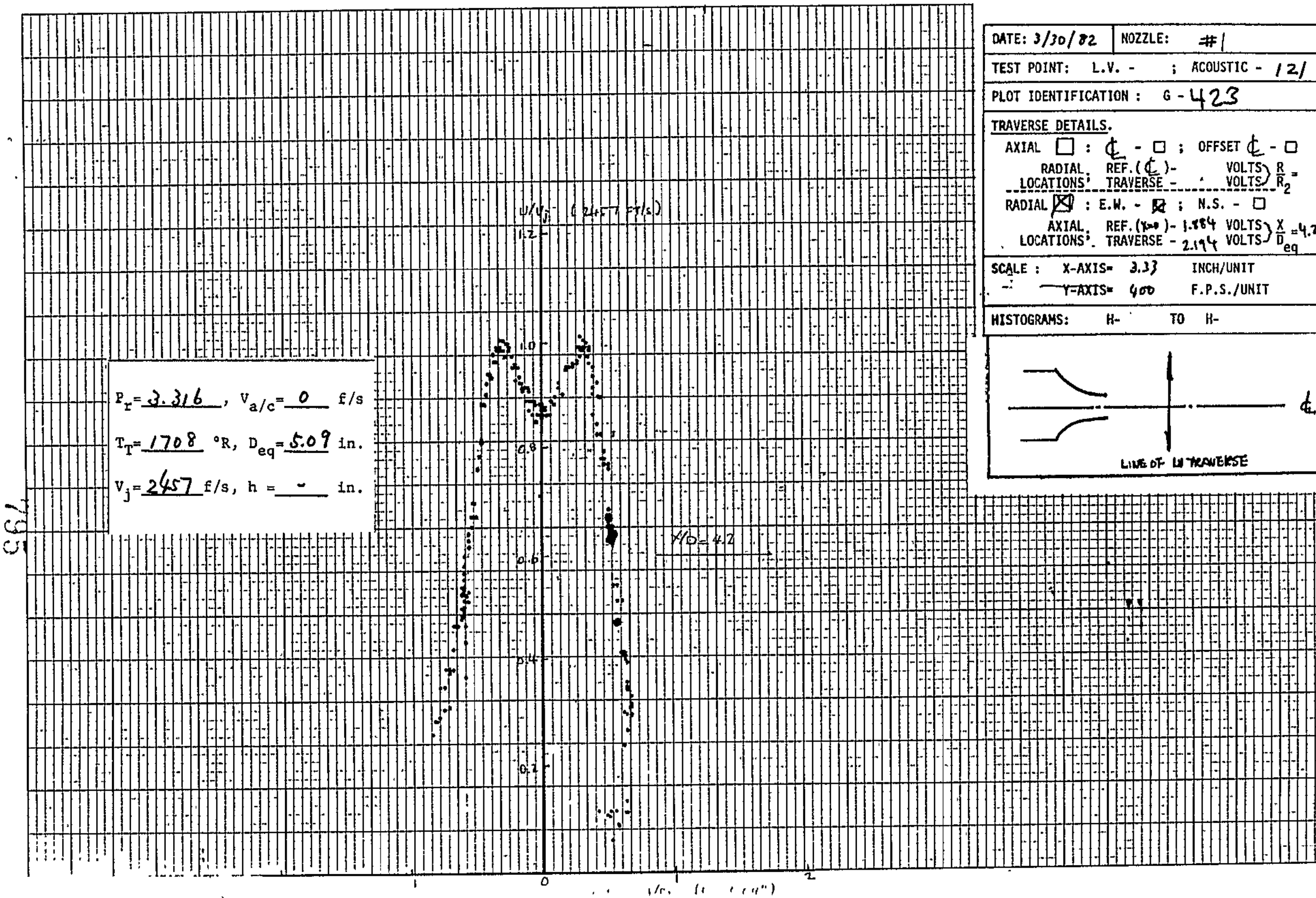
SCALE : X-AXIS = 3.33 INCH/UNIT

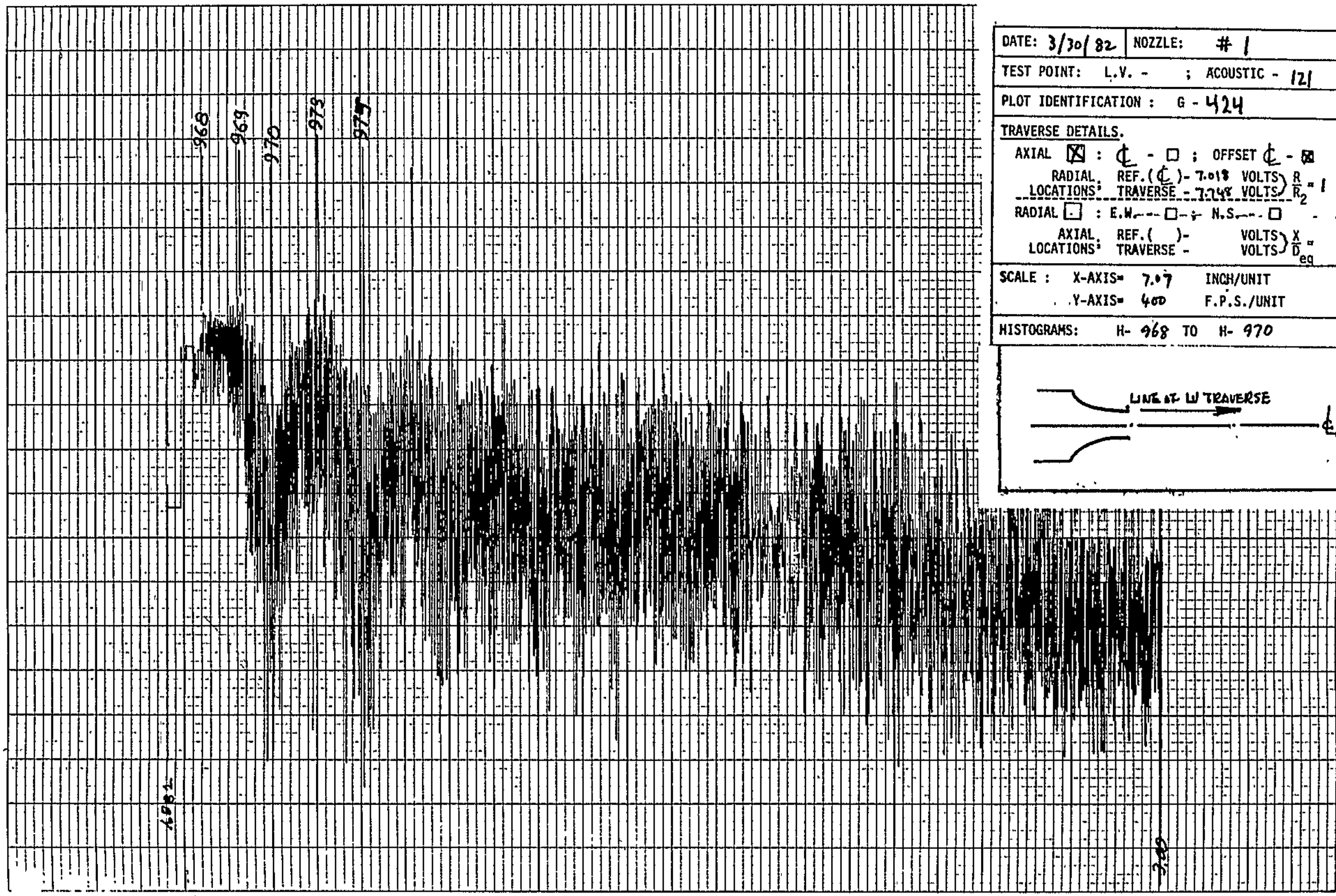
Y-AXIS = 400 F.P.S./UNIT

HISTOGRAMS: H- TO H-



794


DATE: 3/30/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 121
PLOT IDENTIFICATION : G - 423
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET ℄ - ☐
RADIAL LOCATIONS; REF.(℄)- VOLTS; TRAVERSE - VOLTS; R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS; REF.(X=0)- 1.884 VOLTS; TRAVERSE - 2.194 VOLTS; X/Deq = 4.2
SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 400 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
LINE OF LV TRAVERSE
Pr = 3.316, Va/c = 0 f/s
TT = 1708 °R, Deq = 5.09 in.
Vj = 2457 f/s, h = - in.
U/Vj (2457 FT/s)
1.2
1.0
0.8
0.6
0.4
0.2
X/D = 4.2
1
0
1
2
No XY 1101
RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
PRINTED IN U.S.A.



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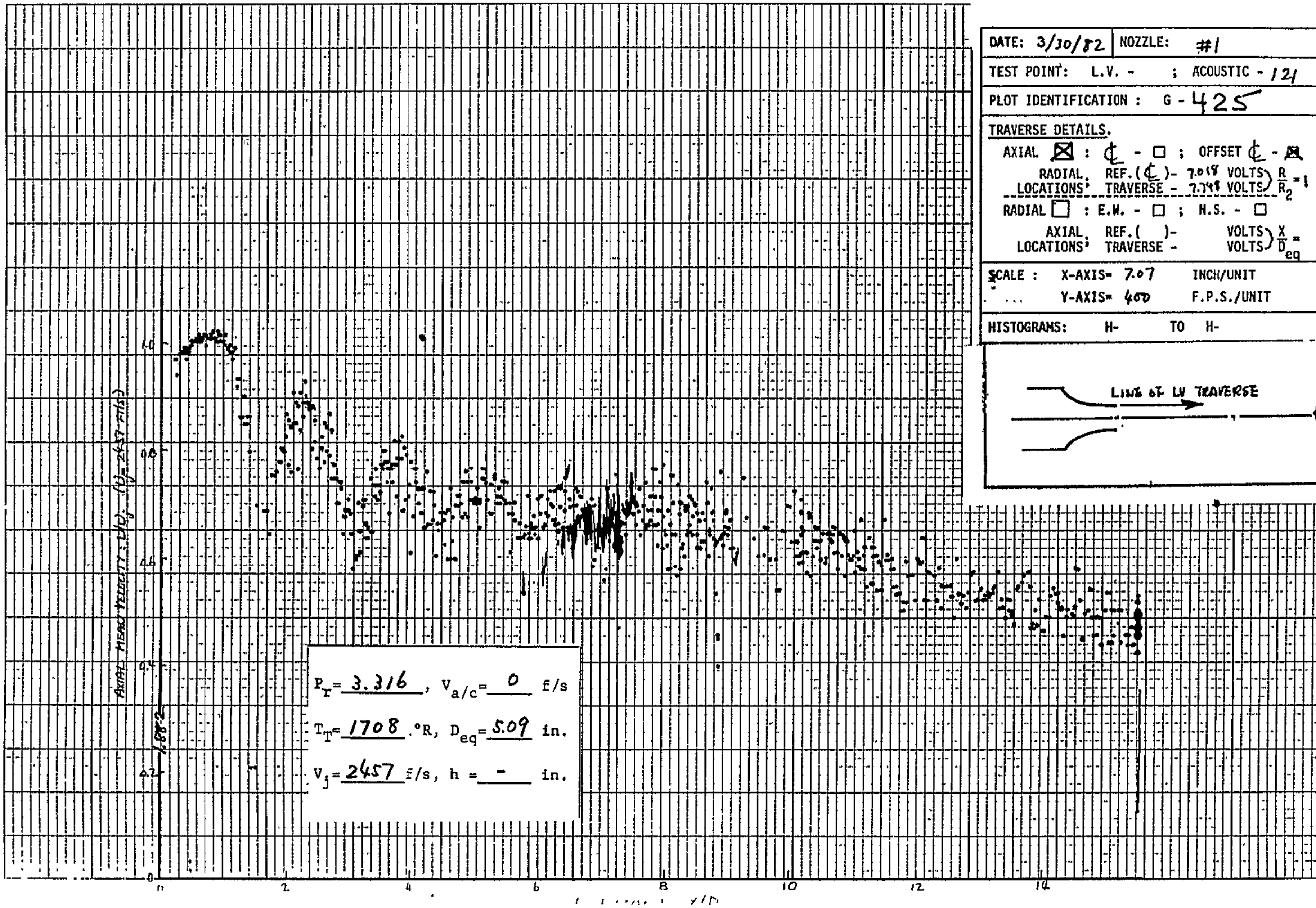

267

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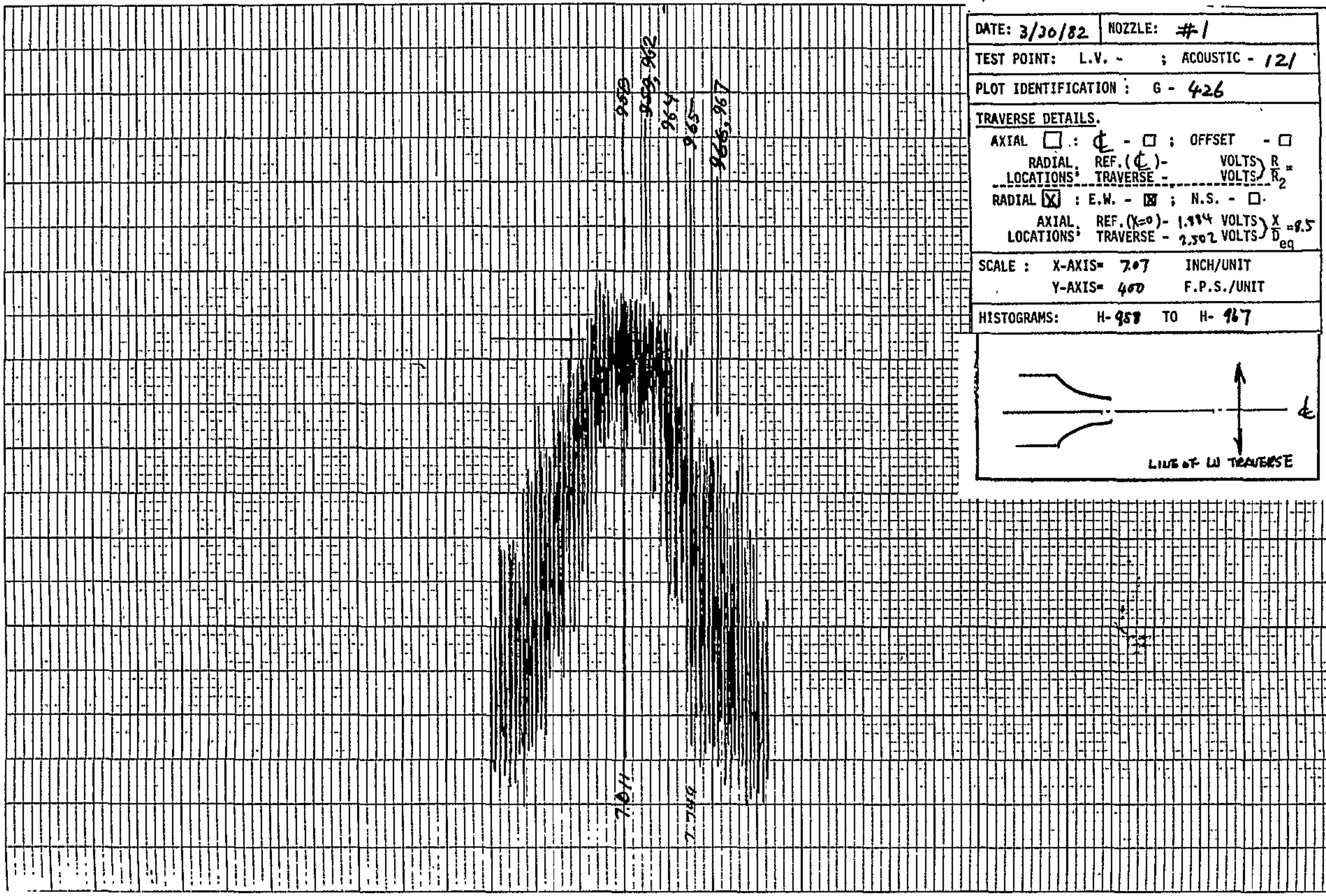


DATE: 3/30/82 NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 121

PLOT IDENTIFICATION : G - 426

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS; TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

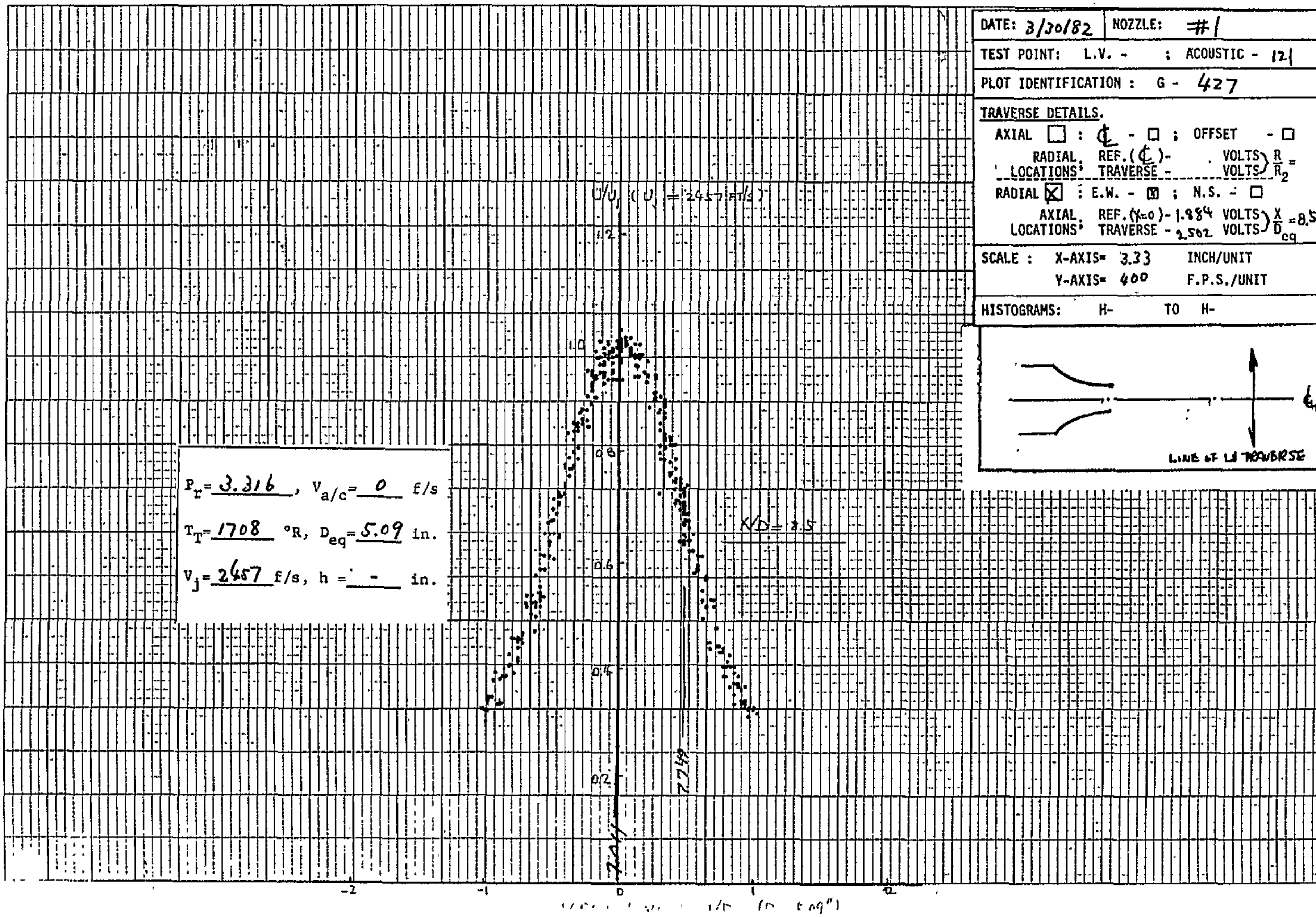
AXIAL LOCATIONS: REF.(X=0)- 1.984 VOLTS; TRAVERSE - 2.502 VOLTS } $\frac{X}{D_{eq}}$ = 8.5

SCALE : X-AXIS= 7.07 INCH/UNIT

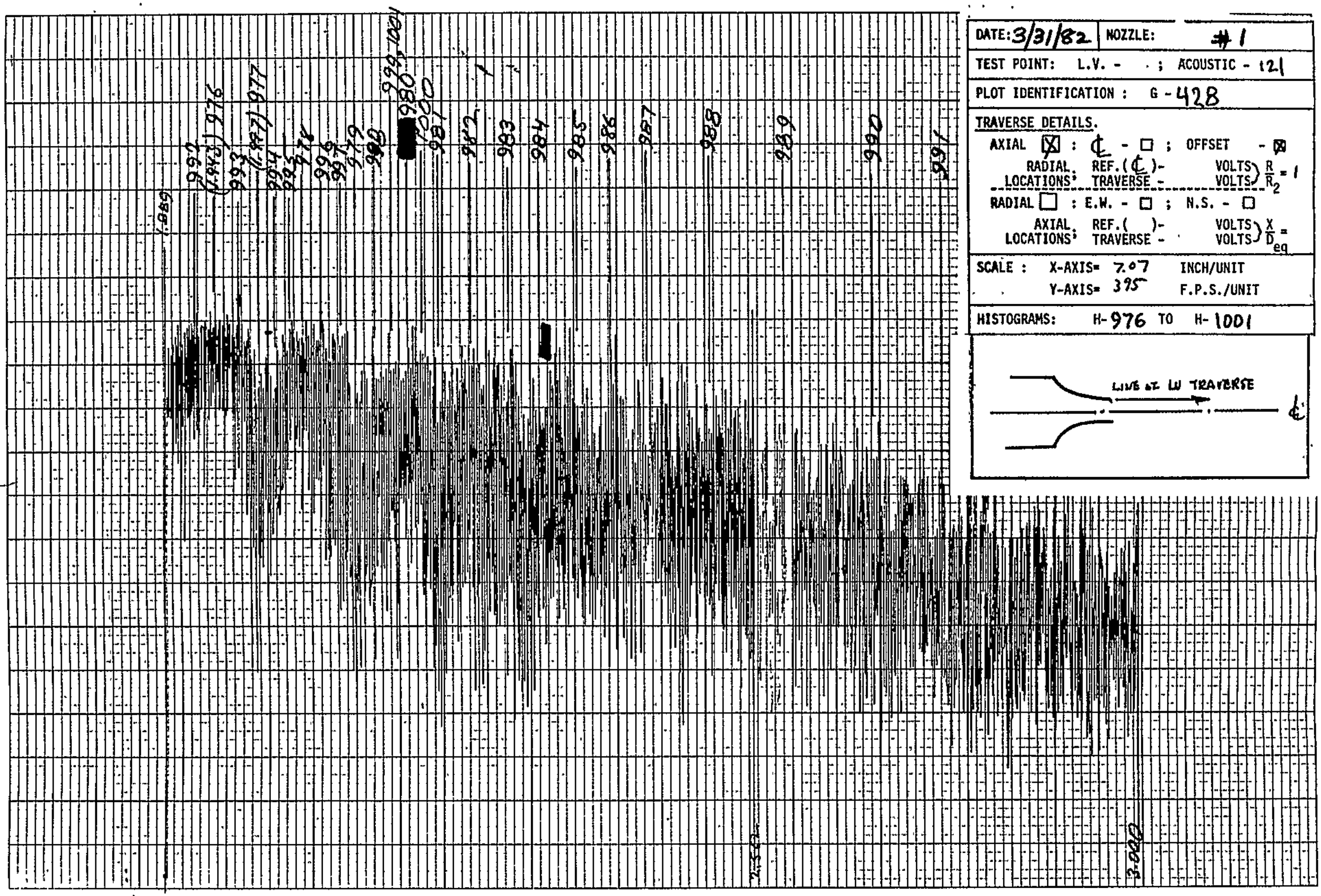
Y-AXIS= 400 F.P.S./UNIT

HISTOGRAMS: H-958 TO H-967

798


DATE: 3/30/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 121
PLOT IDENTIFICATION : G - 427
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF. (X=0) - 1.884 VOLTS; TRAVERSE - 2.502 VOLTS; X/Deq = 8.5
SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 400 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr = 3.316 , Va/c = 0 f/s
TT = 1708 °R, Deq = 5.09 in.
Vj = 2457 f/s, h = - in.
U/Uj (Uj = 2457 FT/S)
X/D = 8.5
1.2
1.0
0.8
0.6
0.4
0.2
7249
7247
-2
-1
0
1
2

799



DATE: 3/31/82 NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 121

PLOT IDENTIFICATION : G - 428

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ = 1

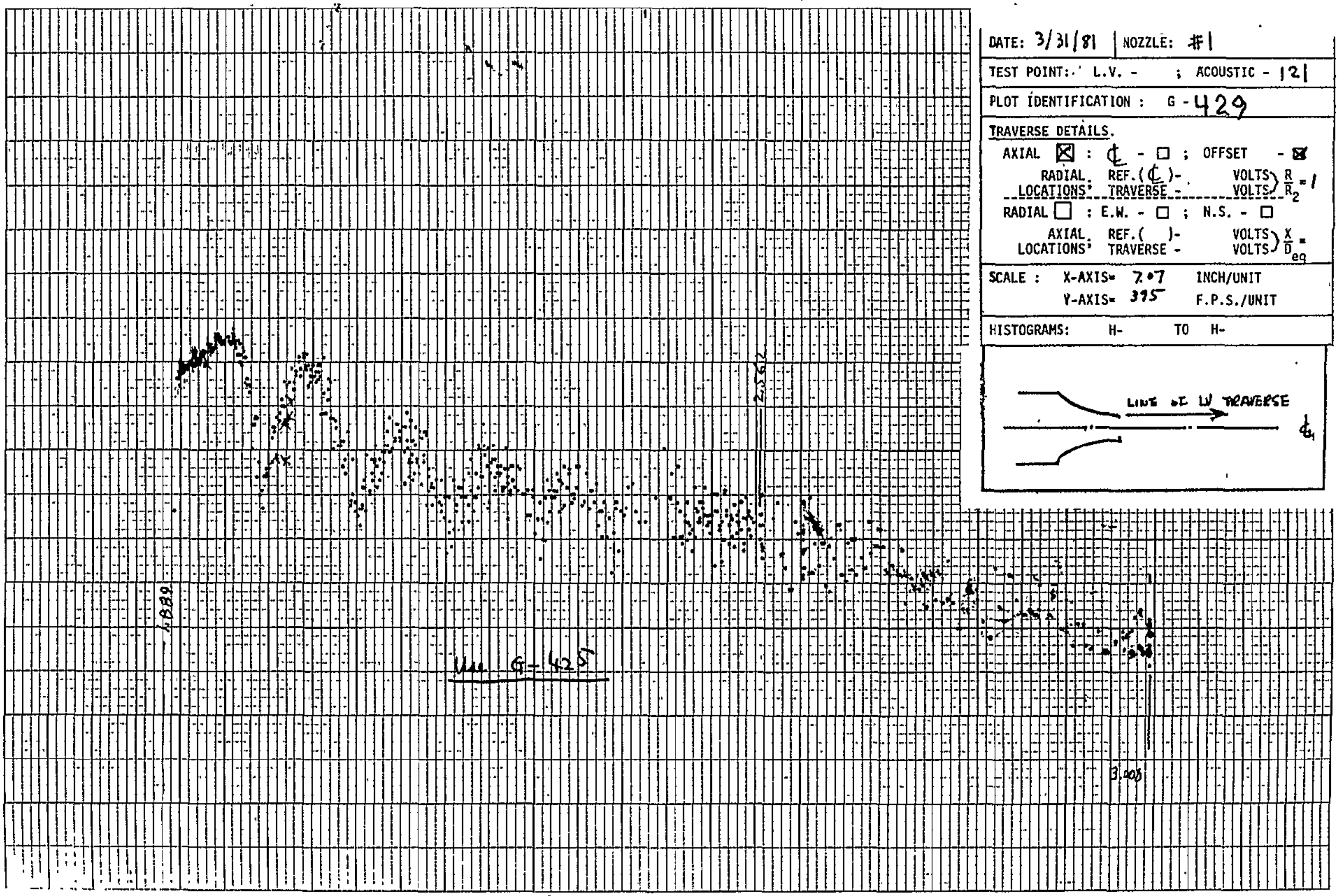
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H-976 TO H-1001



DATE: 3/31/81 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 121

PLOT IDENTIFICATION : G - 429

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

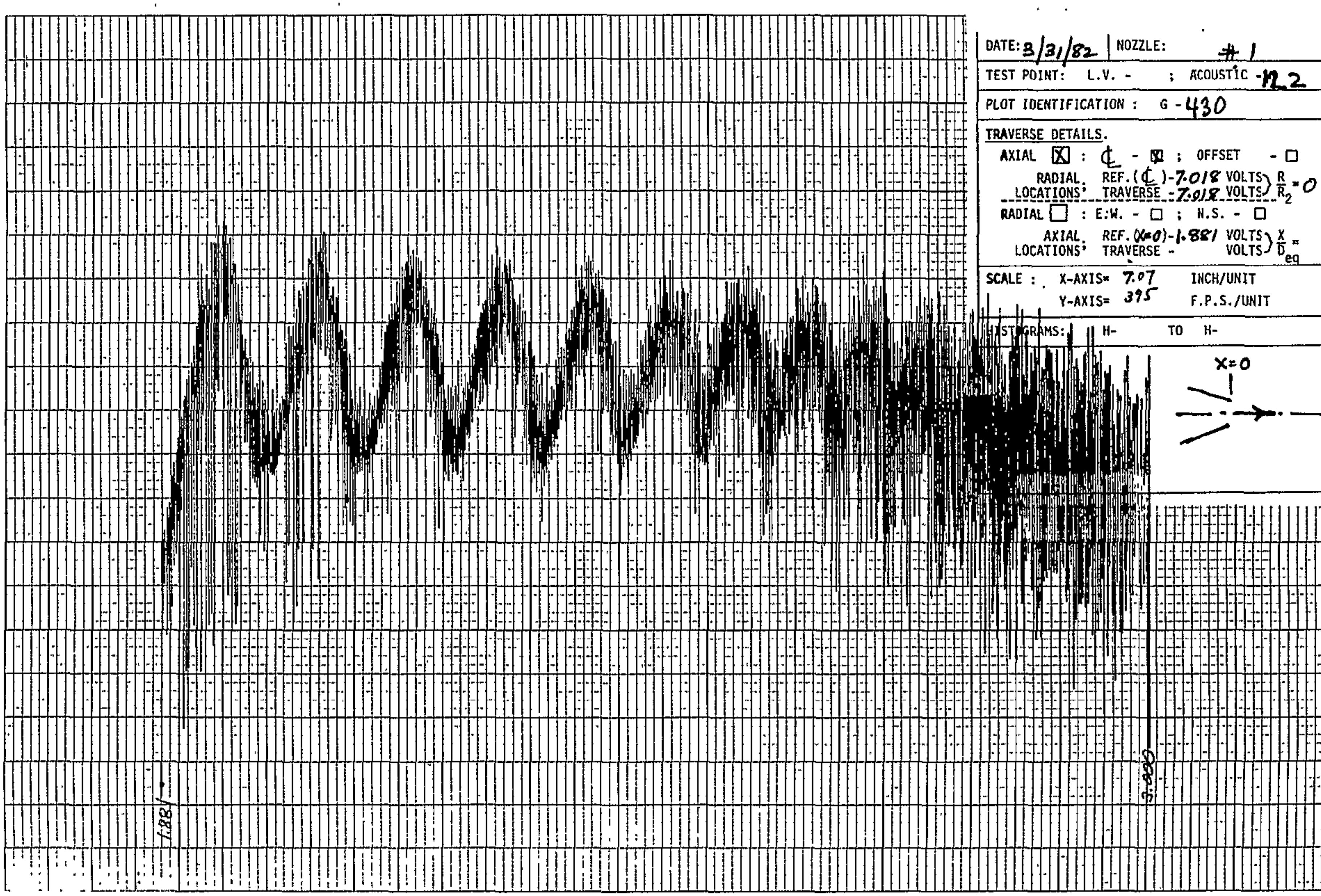
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.7 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

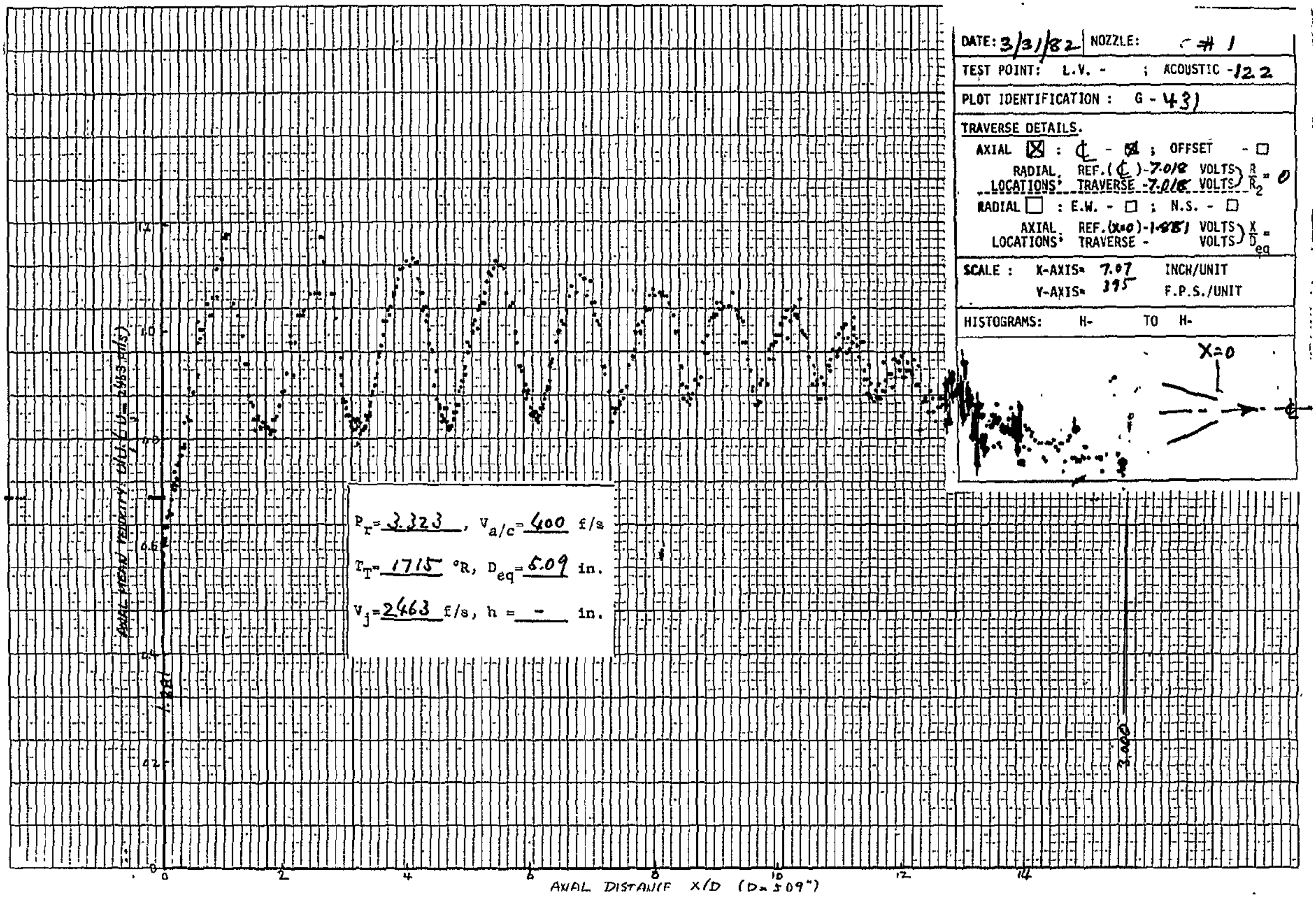
HISTOGRAMS: H- TO H-

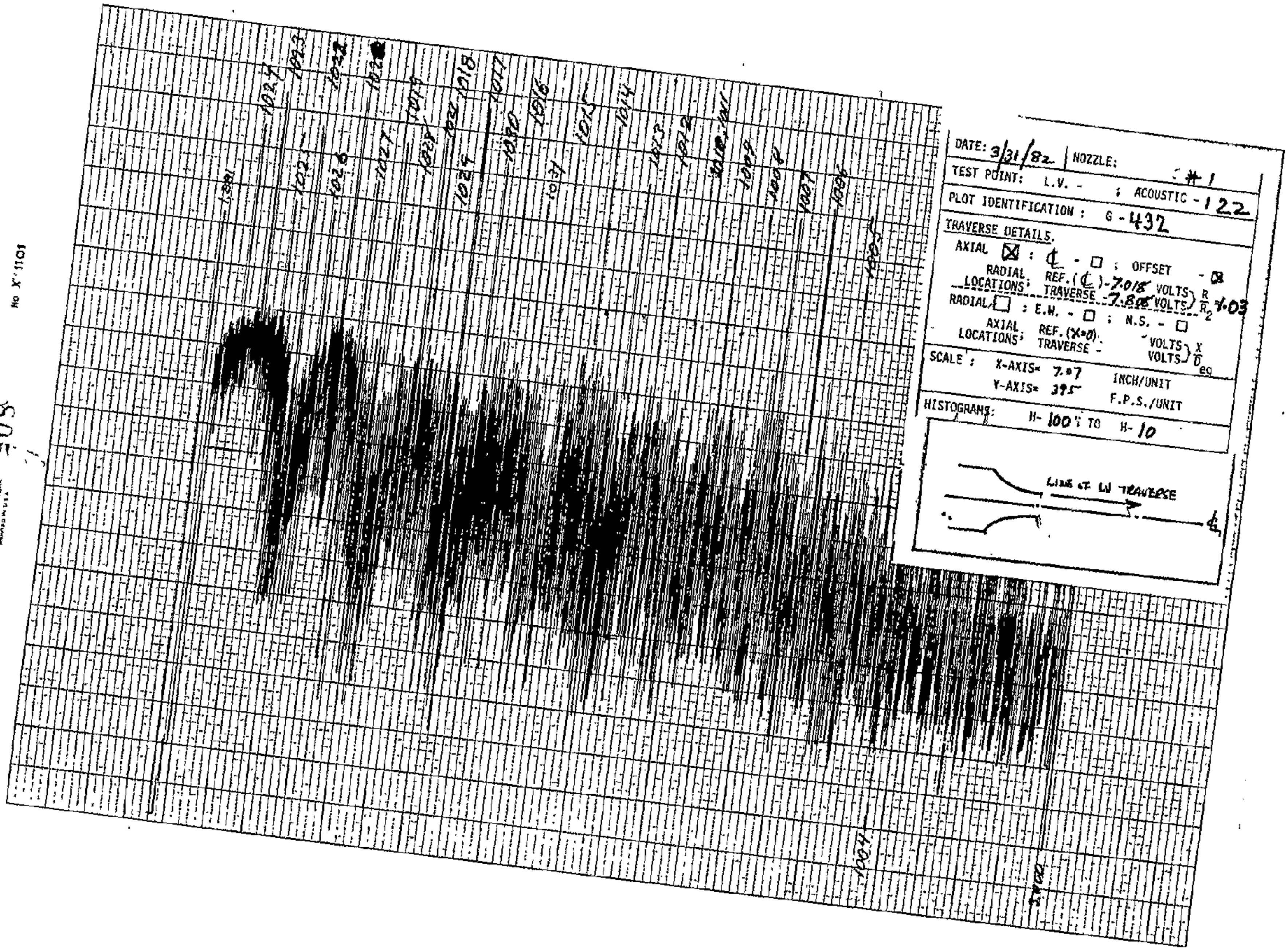
801

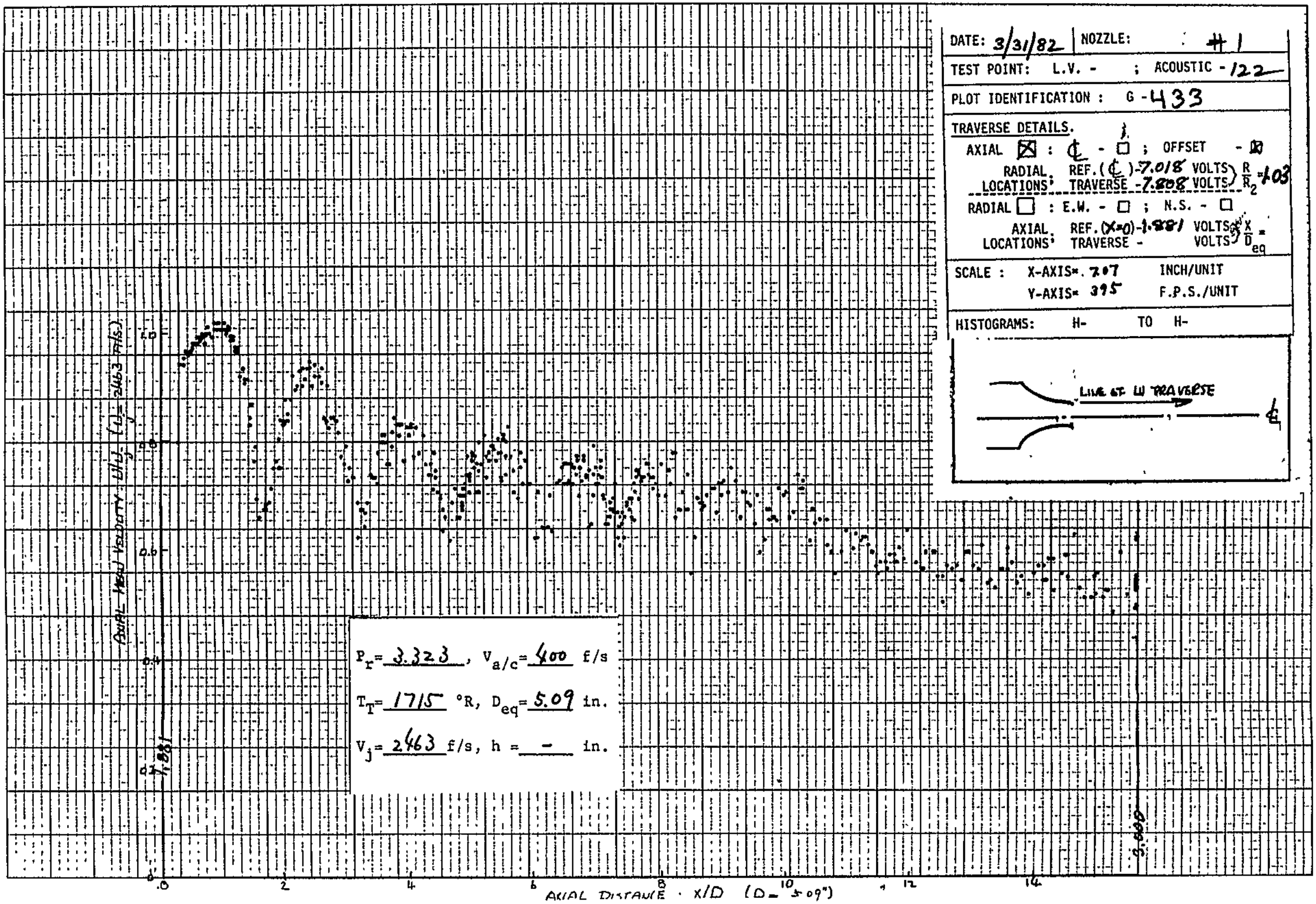


DATE: 3/31/82 | NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 12.2
PLOT IDENTIFICATION : G - 430
TRAVERSE DETAILS.
AXIAL [X] : ℄ - [X] ; OFFSET - [ ]
RADIAL LOCATIONS: REF.(℄) - 7.018 VOLTS; TRAVERSE - 7.018 VOLTS; R/R2 = 0
RADIAL [ ] : E.W. - [ ] ; N.S. - [ ]
AXIAL LOCATIONS: REF.(X=0) - 1.881 VOLTS; TRAVERSE - VOLTS; X/Deq =
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
X=0
1.881
3.800

803


DATE: 3/31/82 NOZZLE: C#1
TEST POINT: L.V. - ; ACOUSTIC -122
PLOT IDENTIFICATION : G-431
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)-7.018 VOLTS, TRAVERSE -7.018 VOLTS, R/R2 = 0
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.(X=0)-1.881 VOLTS, TRAVERSE - VOLTS, X/Deq =
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
X=0
Pr= 3.323, Va/c= 400 f/s
TT= 1715 °R, Deq= 5.09 in.
Vj= 2463 f/s, h = - in.
AXIAL MEAN VELOCITY, U/Uj (Uj = 2463 ft/s)
AXIAL DISTANCE X/D (D=5.09")
1.881
3.000


DATE: 3/31/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 122
PLOT IDENTIFICATION : G-432
TRAVERSE DETAILS.
AXIAL
OFFSET
RADIAL LOCATIONS: REF. (℄) - 7.018 VOLTS
TRAVERSE - 7.805 VOLTS
1.03
RADIAL
E.W.
N.S.
AXIAL LOCATIONS: REF. (X=0) - VOLTS
TRAVERSE - VOLTS
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- 100 TO H- 10
LINE OF LV TRAVERSE
RECORDING CHARTS
No X 1101



DATE: 3/31/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 122

PLOT IDENTIFICATION : G - 433

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) -7.018 VOLTS, TRAVERSE -7.808 VOLTS; $\frac{R}{R_2}$ = .103

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) -1.881 VOLTS, TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

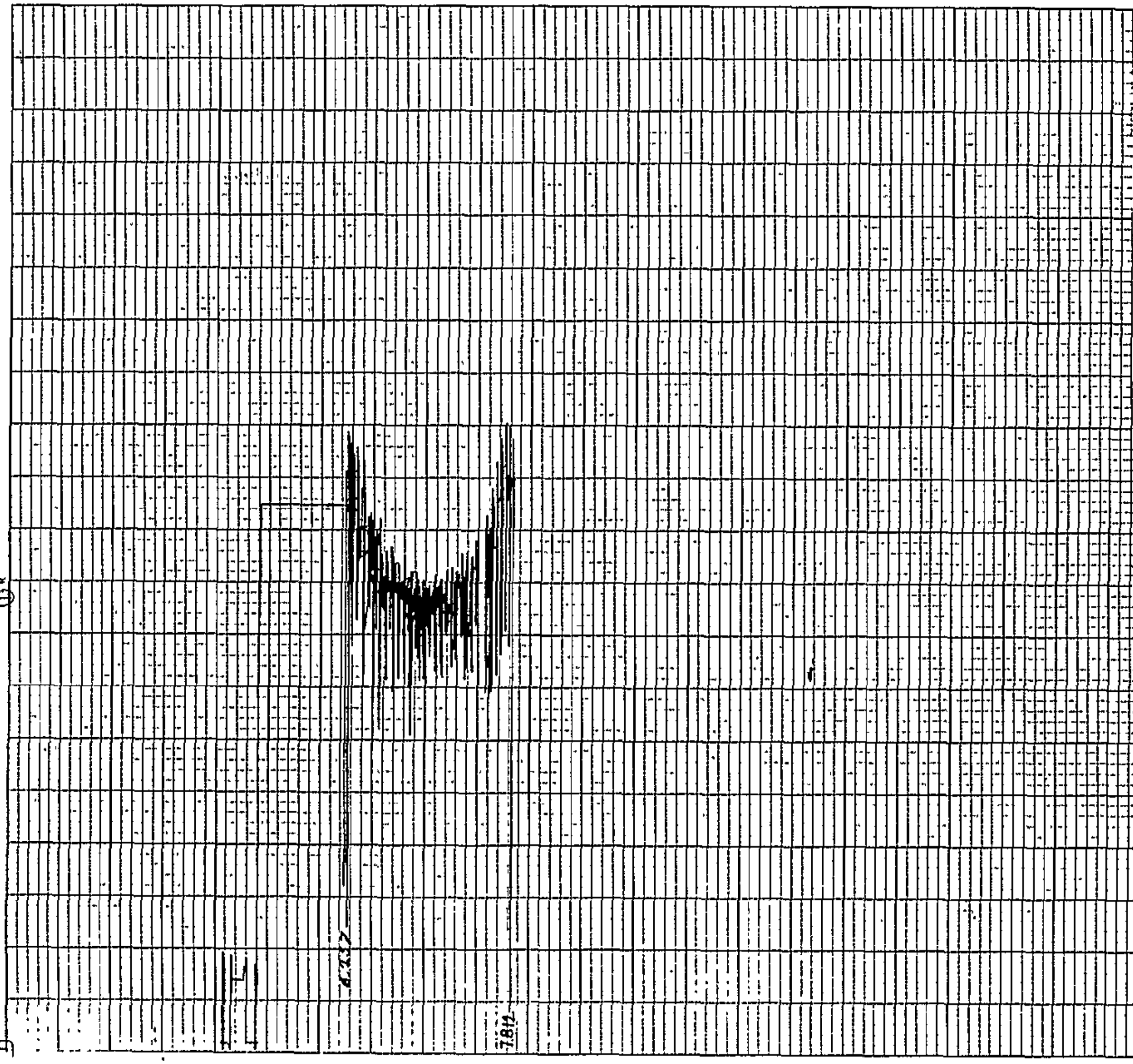
SCALE : X-AXIS = .707 INCH/UNIT; Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

P_r = 3.323, $V_{a/c}$ = 400 f/s

T_T = 1715 °R, D_{eq} = 5.09 in.

V_j = 2463 f/s, h = - in.



DATE: 3/31/82	NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC -122

PLOT IDENTIFICATION : G-434

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

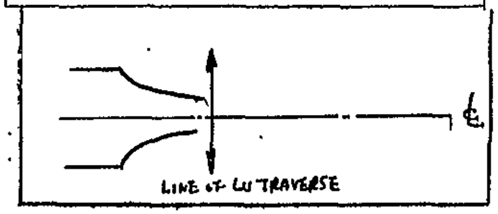
RADIAL LOCATIONS: REF. (℄) -7.018 VOLTS; TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

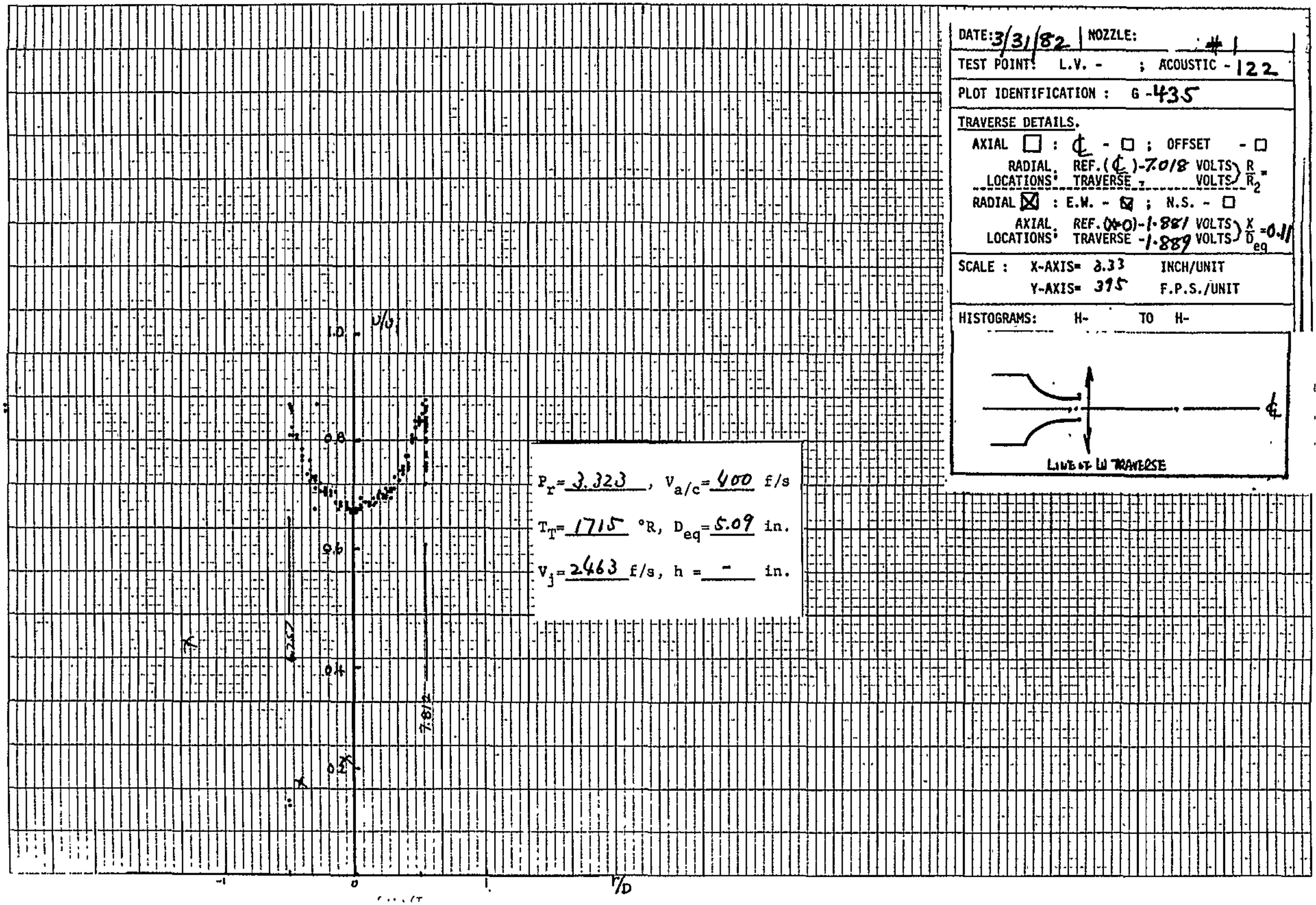
AXIAL LOCATIONS: REF. (X=0) -1.881 VOLTS; TRAVERSE -1.889 VOLTS } $\frac{X}{D_{eq}}$ = 0.11

SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



807



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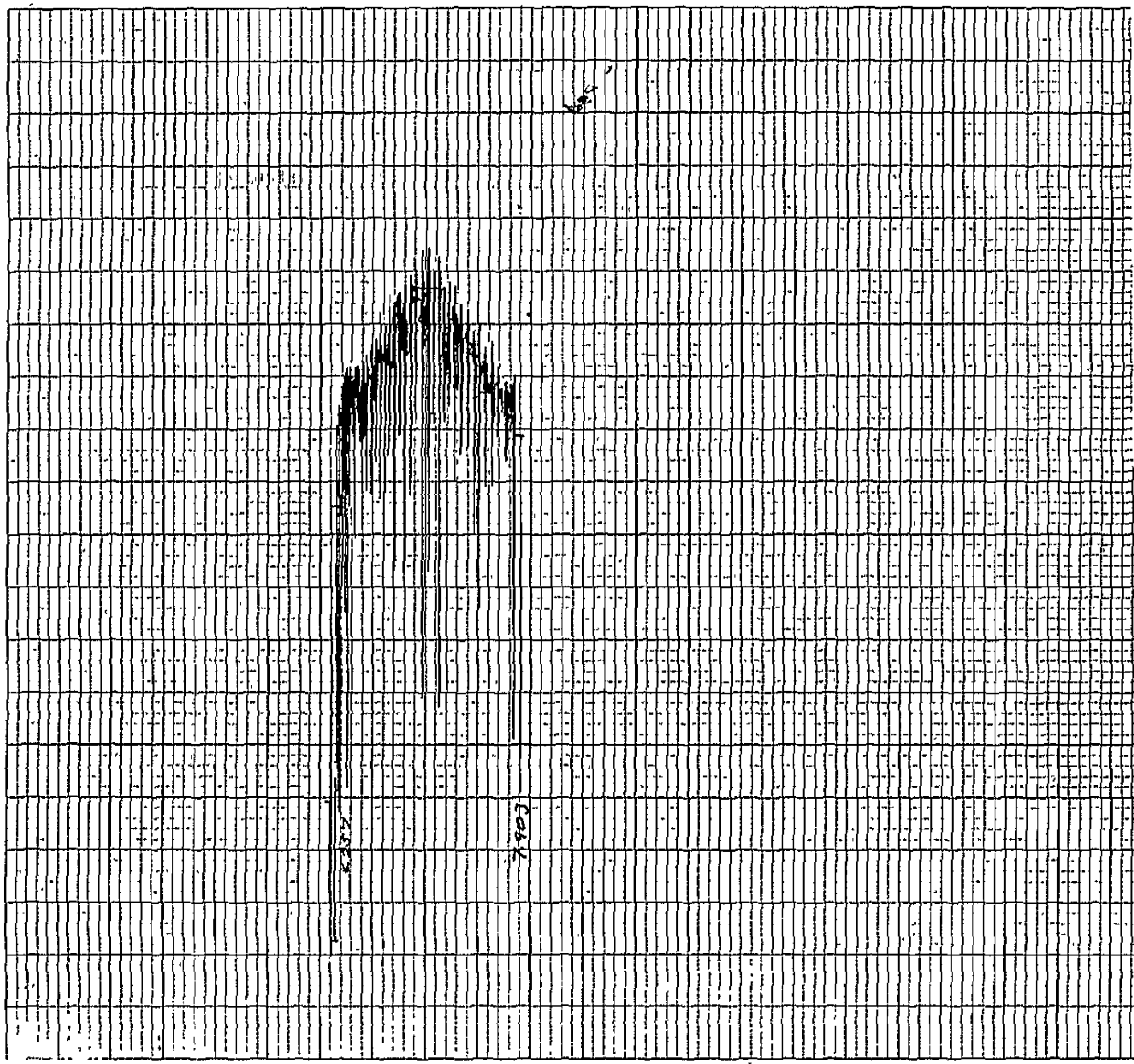


DATE: 3/31/82 | NOZZLE: #1

TEST POINT: L.V. -- ; ACOUSTIC - 122

PLOT IDENTIFICATION : G - 436

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - 7.018 VOLTS; TRAVERSE - VOLTS) $\frac{R}{R_2}$ =

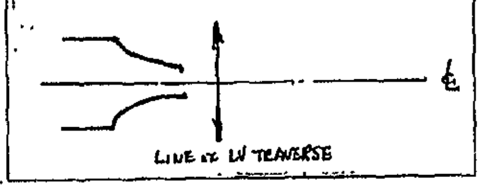
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.881 VOLTS; TRAVERSE - 1.960 VOLTS) $\frac{X}{D_{eq}}$ = 11

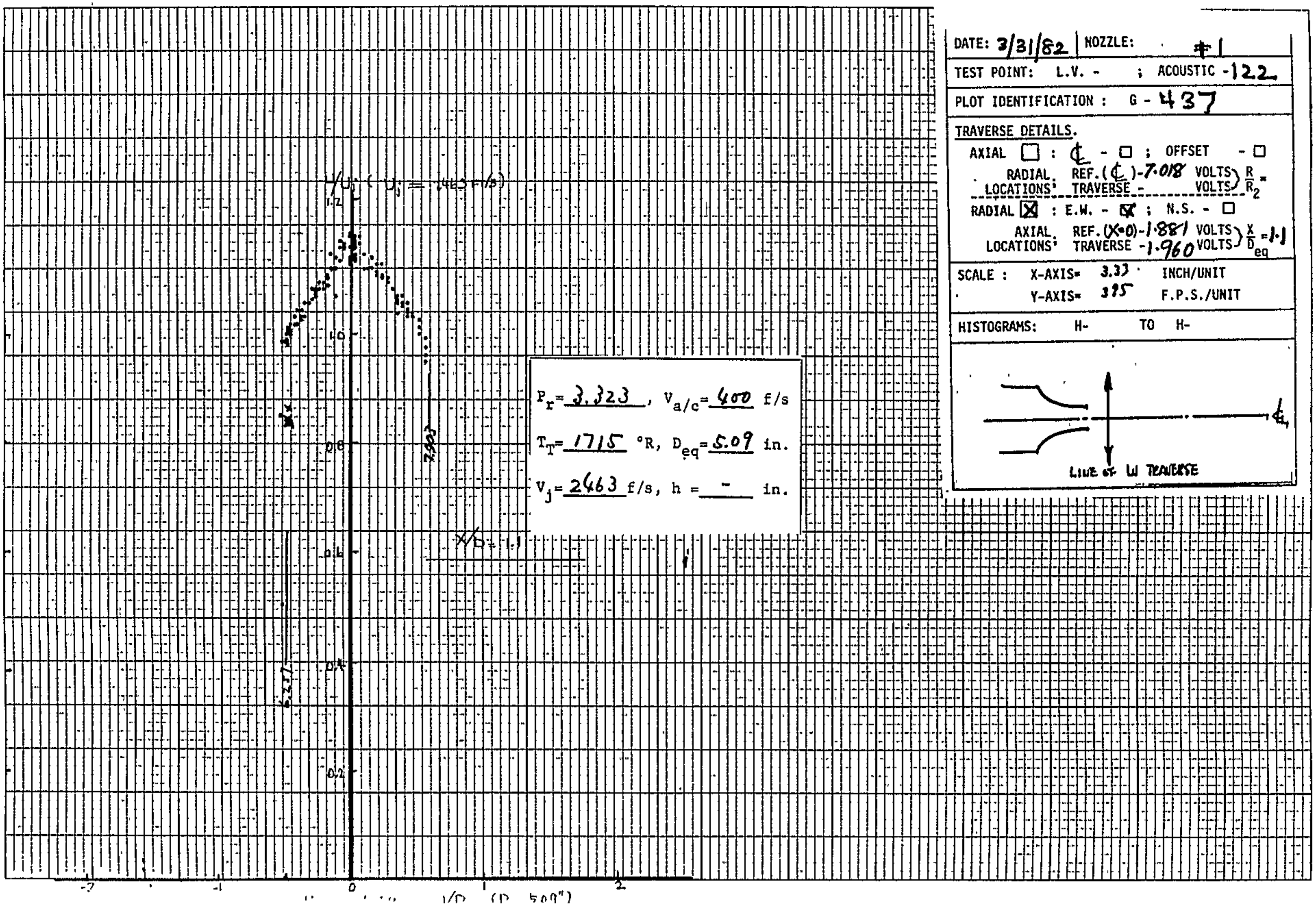
SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 375 F.P.S./UNIT

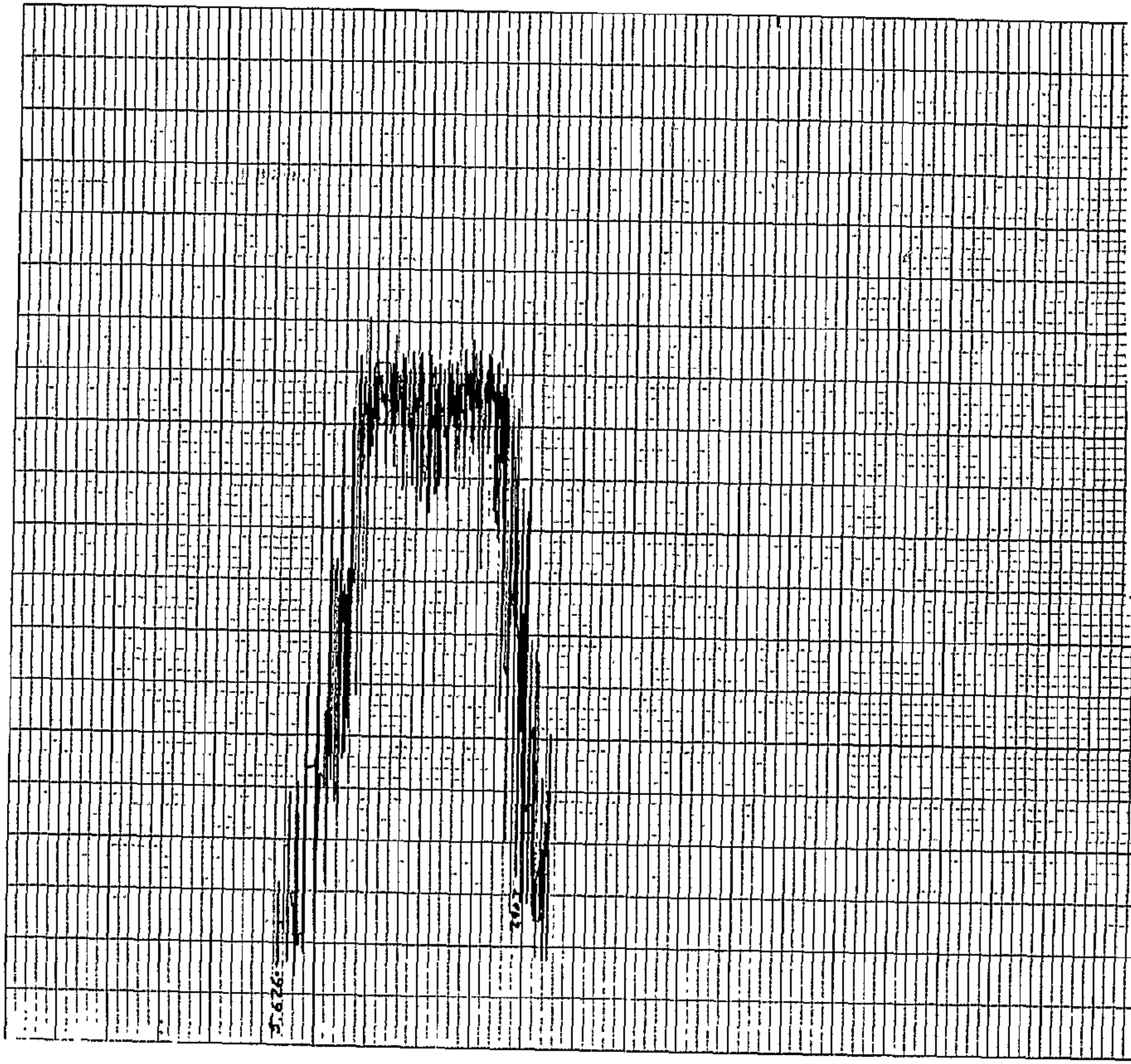
HISTOGRAMS: H- TO H-



809



DATE: 3/31/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC -122
PLOT IDENTIFICATION : G - 437
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)-7.018 VOLTS, TRAVERSE - VOLTS; R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.(X=0)-1.881 VOLTS, TRAVERSE -1.960 VOLTS; X/Deq =1.1
SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
Pr= 3.323 , Va/c= 400 f/s
TT= 1715 °R, Deq= 5.09 in.
Vj= 2463 f/s, h = - in.
X/D = 1.1
1.2
1.0
0.8
0.6
0.4
0.2
-2
-1
0
1
2
7.903
6.237



DATE: 3/31/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 122

PLOT IDENTIFICATION : G - 438

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

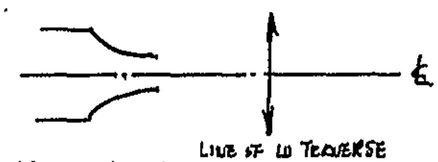
RADIAL LOCATIONS: REF. (℄) 7.018 VOLTS; TRAVERSE : VOLTS $\frac{R}{R_2}$ =

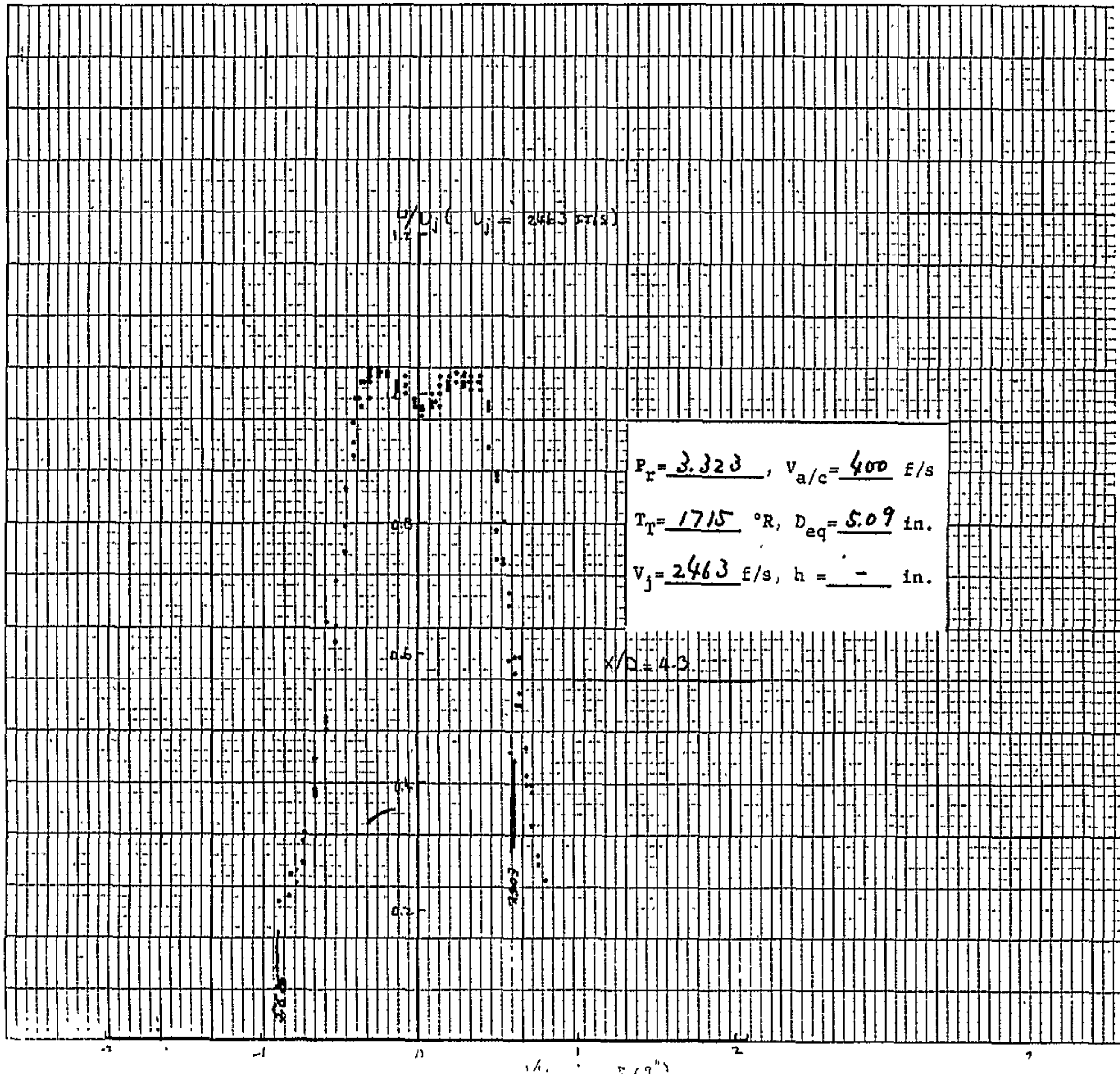
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) 1.881 VOLTS; TRAVERSE -2.192 VOLTS $\frac{X}{D_{eq}}$ = 4.3

SCALE : X-AXIS = 3.33 INCH/UNIT; Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 3/31/82 NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 122

PLOT IDENTIFICATION : G - 439

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

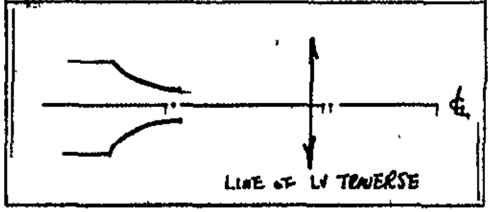
RADIAL LOCATIONS: REF. (℄) - 7.018 VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.881 VOLTS; TRAVERSE - 2.192 VOLTS; $\frac{X}{D_{eq}}$ = 4.3

SCALE : X-AXIS = 3.33 INCH/UNIT; Y-AXIS = 395 F.P.S./UNIT

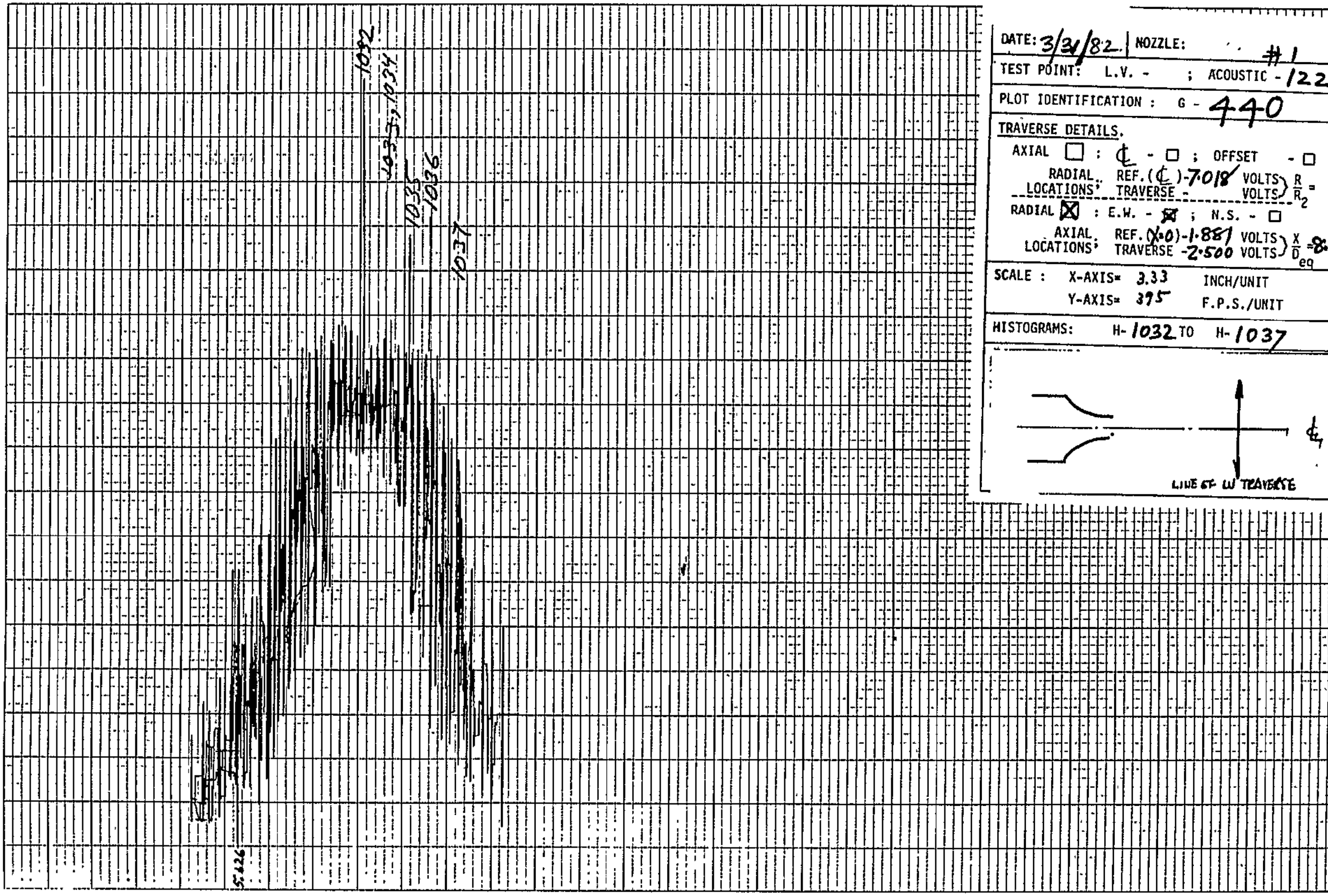
HISTOGRAMS: H- TO H-



P_r = 3.323, $V_{a/c}$ = 400 f/s

T_T = 1715 °R, D_{eq} = 5.09 in.

V_j = 2463 f/s, h = - in.



DATE: 3/31/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 122

PLOT IDENTIFICATION : G - 440

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - 7.018 VOLTS; TRAVERSE - VOLTS } R/R_2 =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.881 VOLTS; TRAVERSE - 2.500 VOLTS } X/D_{eq} = 8.6

SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- 1032 TO H- 1037

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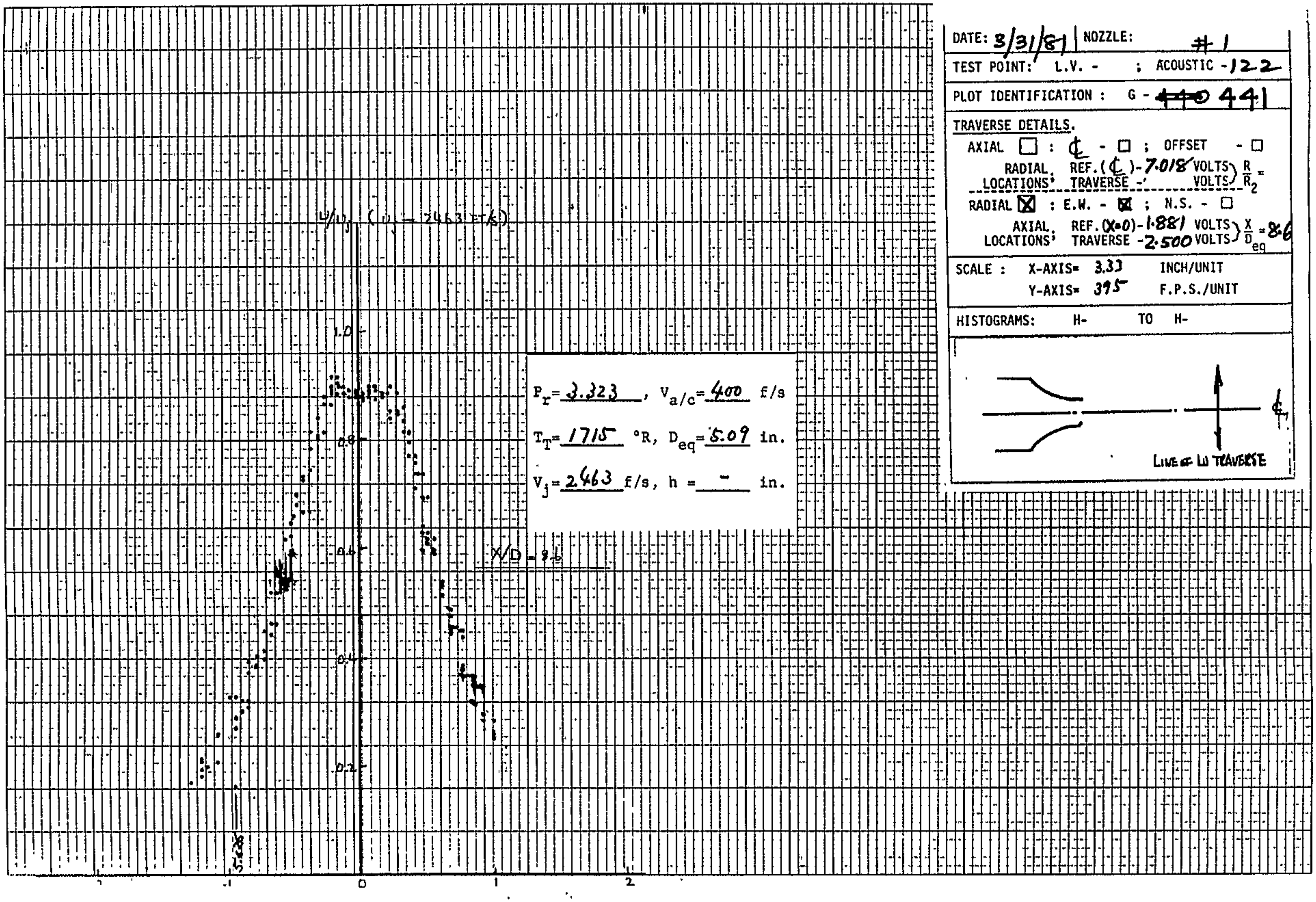
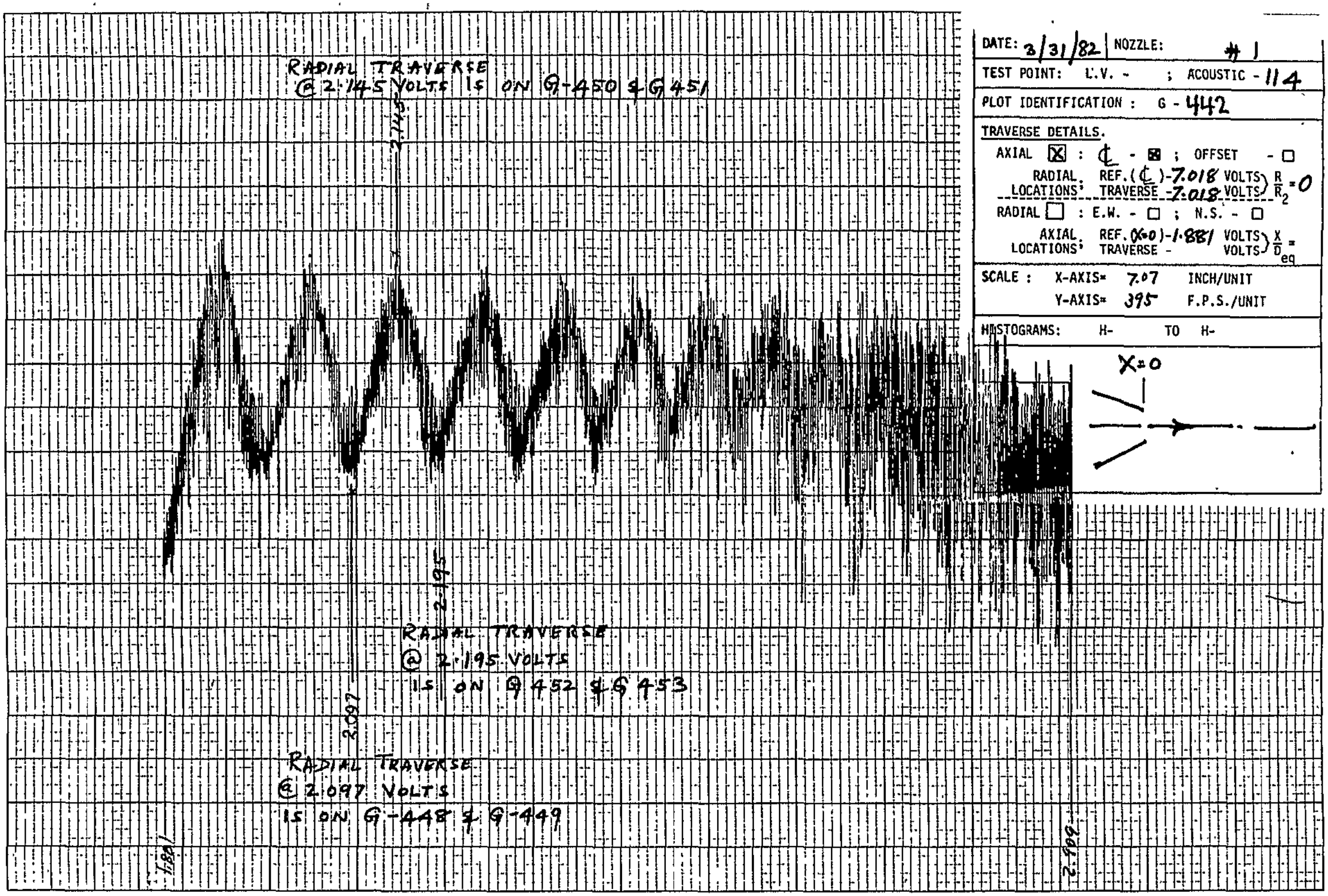
812

No XY 1101



DATE: 3/31/81
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 122
PLOT IDENTIFICATION : G - ~~440~~ 441
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄) - 7.018 VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.(X=0) - 1.881 VOLTS; TRAVERSE - 2.500 VOLTS; $\frac{X}{D_{eq}}$ = 8.6
SCALE : X-AXIS = 3.33 INCH/UNIT
Y-AXIS = 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
LINE OF LV TRAVERSE
P_r = 3.323 , $V_{a/c}$ = 400 f/s
T_T = 1715 °R, D_{eq} = 5.09 in.
V_j = 2463 f/s, h = - in.
U/Uj (Uj = 2463 ft/s)
1.0
0.8
0.6
0.4
0.2
X/D = 8.6
-1
0
1
2

814



NO. XY 1101

816

GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK PRINTED IN U.S.A.

DATE: 3/31/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 114

PLOT IDENTIFICATION : G - 443

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

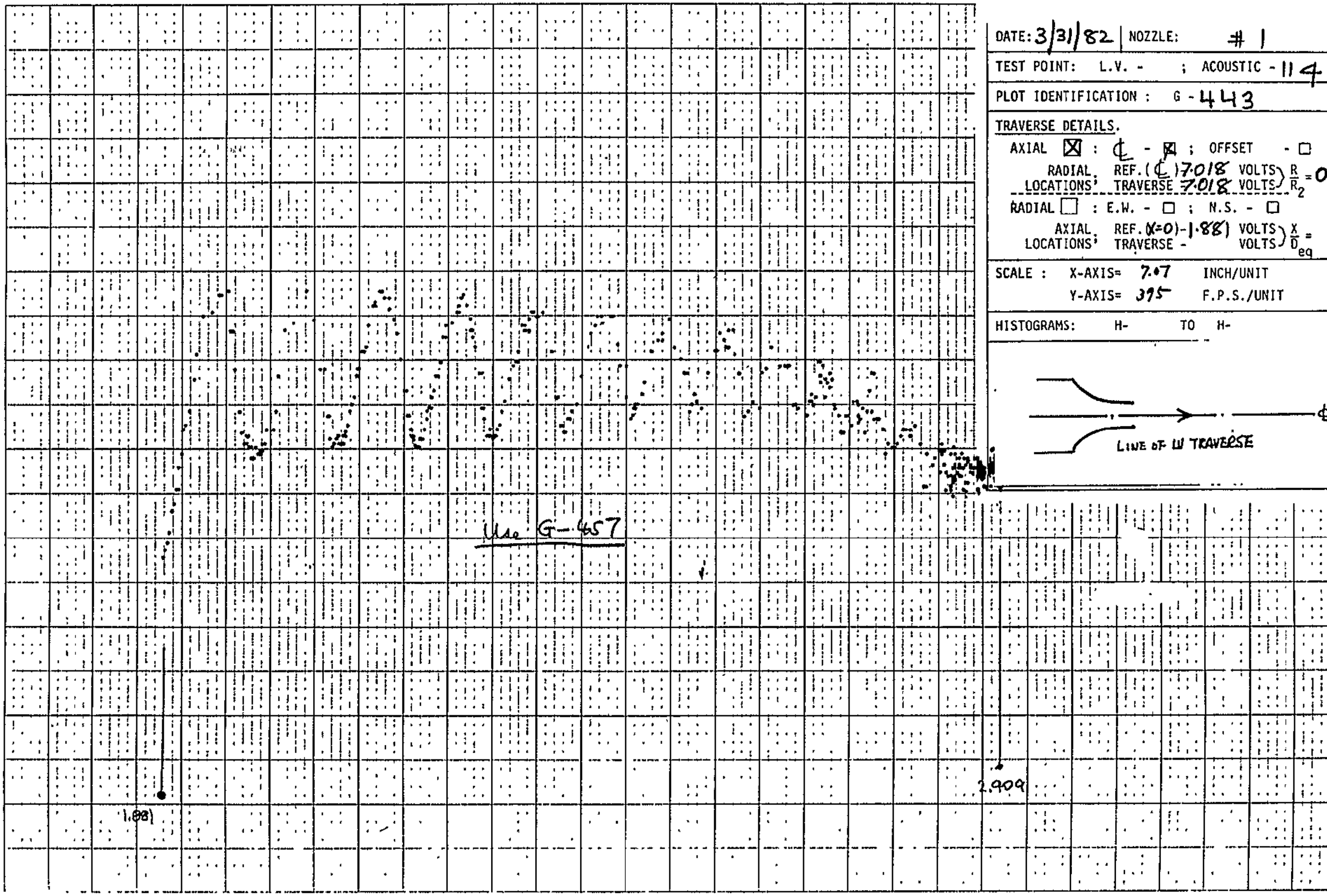
RADIAL LOCATIONS: REF. (℄) 7.018 VOLTS; TRAVERSE 7.018 VOLTS } $\frac{R}{R_2} = 0$

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.881 VOLTS; TRAVERSE - VOLTS } $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.07 INCH/UNIT; Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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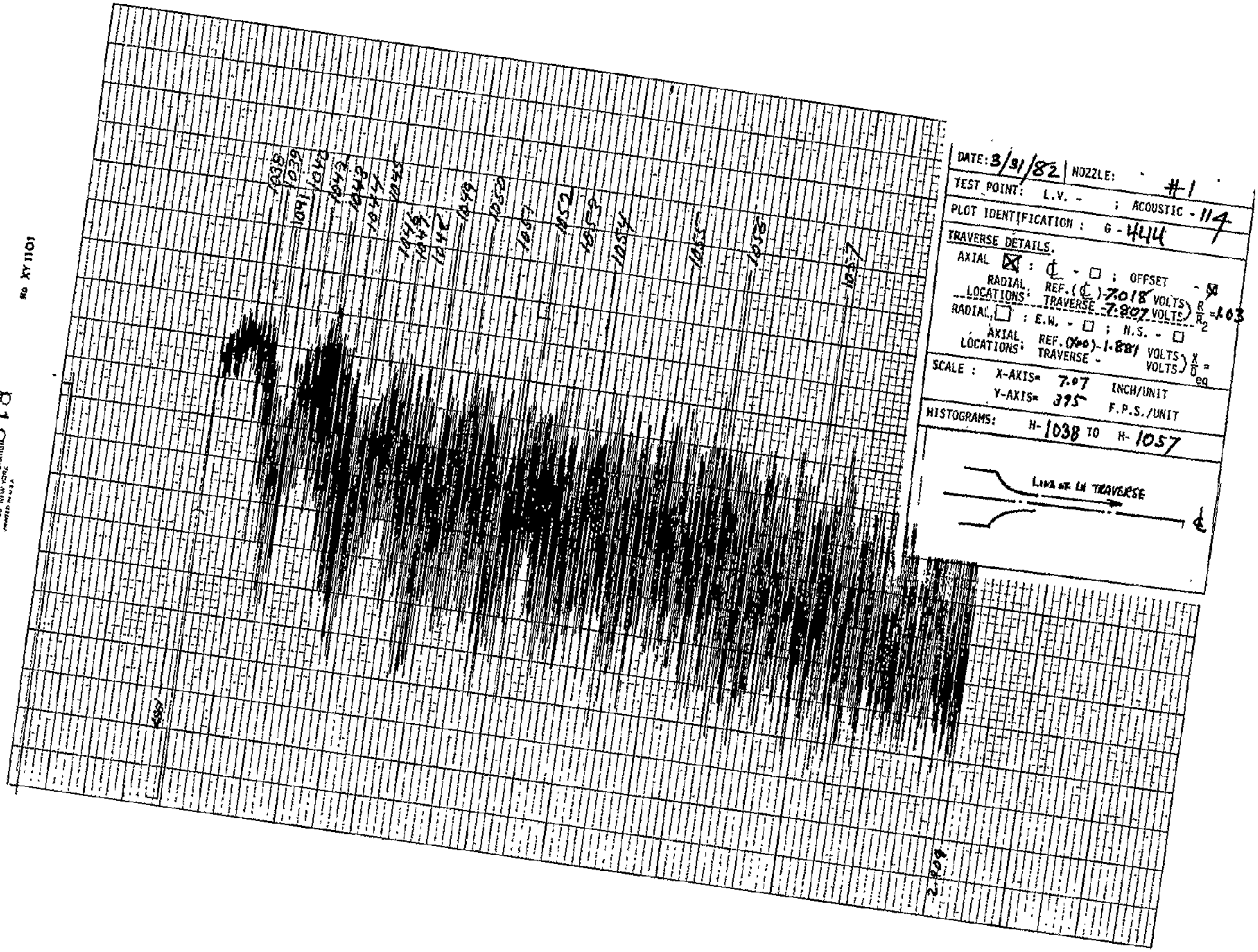
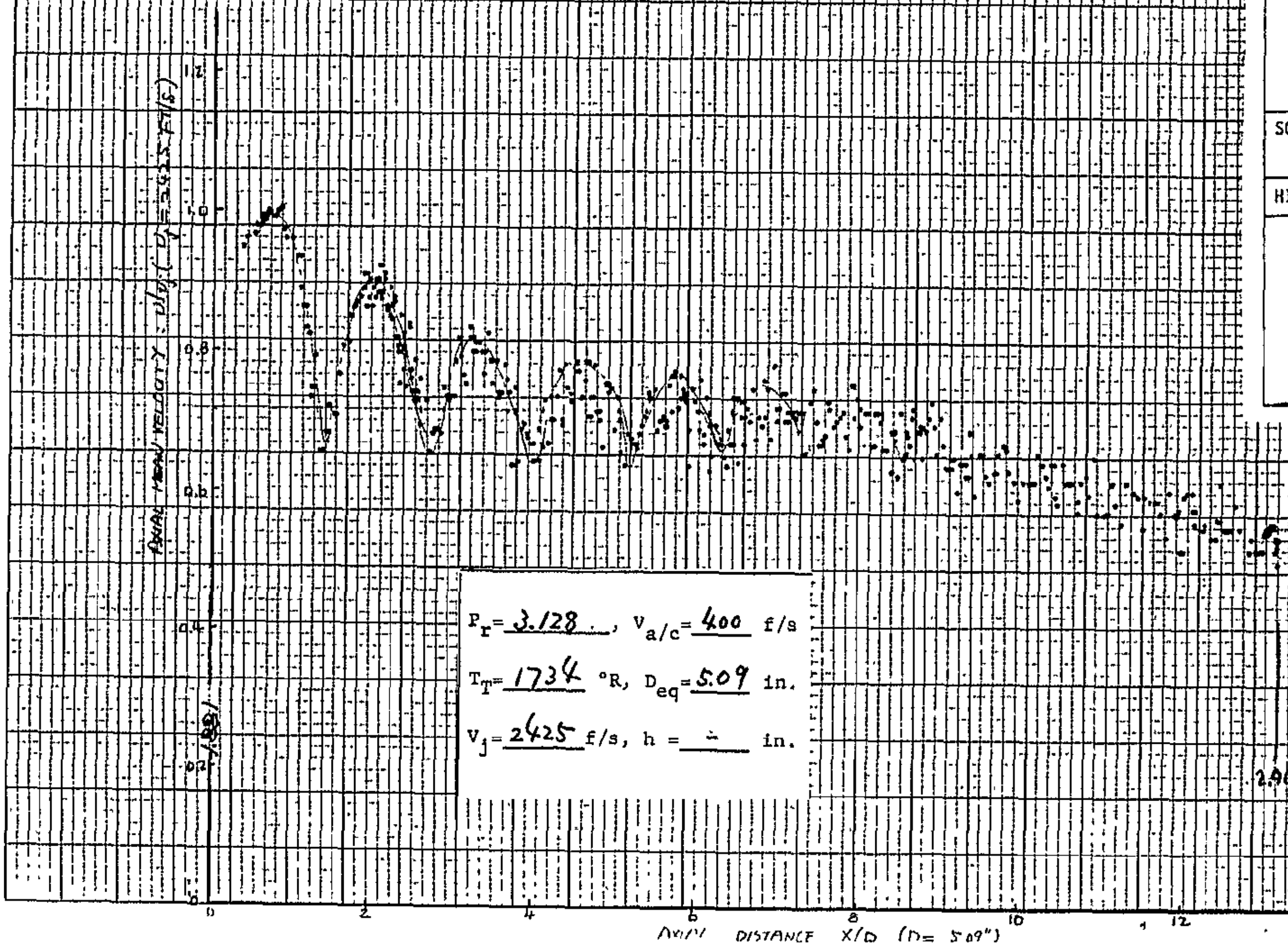
NO XY 1101

817


DATE: 3/31/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 114
PLOT IDENTIFICATION : G - 444
TRAVERSE DETAILS.
AXIAL ; ℄ - ; OFFSET -
RADIAL LOCATIONS: REF. (℄) 7.018 VOLTS
TRAVERSE 7.807 VOLTS
R/R2 = 1.03
RADIAL ; E.W. - ; N.S. -
AXIAL LOCATIONS: REF. (X=0) 1.881 VOLTS
TRAVERSE - VOLTS
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- 1038 TO H- 1057
LINE OF LV TRAVERSE
℄



DATE: 3/31/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 114

PLOT IDENTIFICATION : G - 445

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

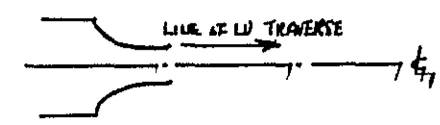
RADIAL LOCATIONS: REF. (℄) - 7.018 VOLTS; TRAVERSE - 7.807 VOLTS; $\frac{R}{R_2}$ = 1.03

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. (x=0) - 1.881 VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT; Y-AXIS= 395 F.P.S./UNIT

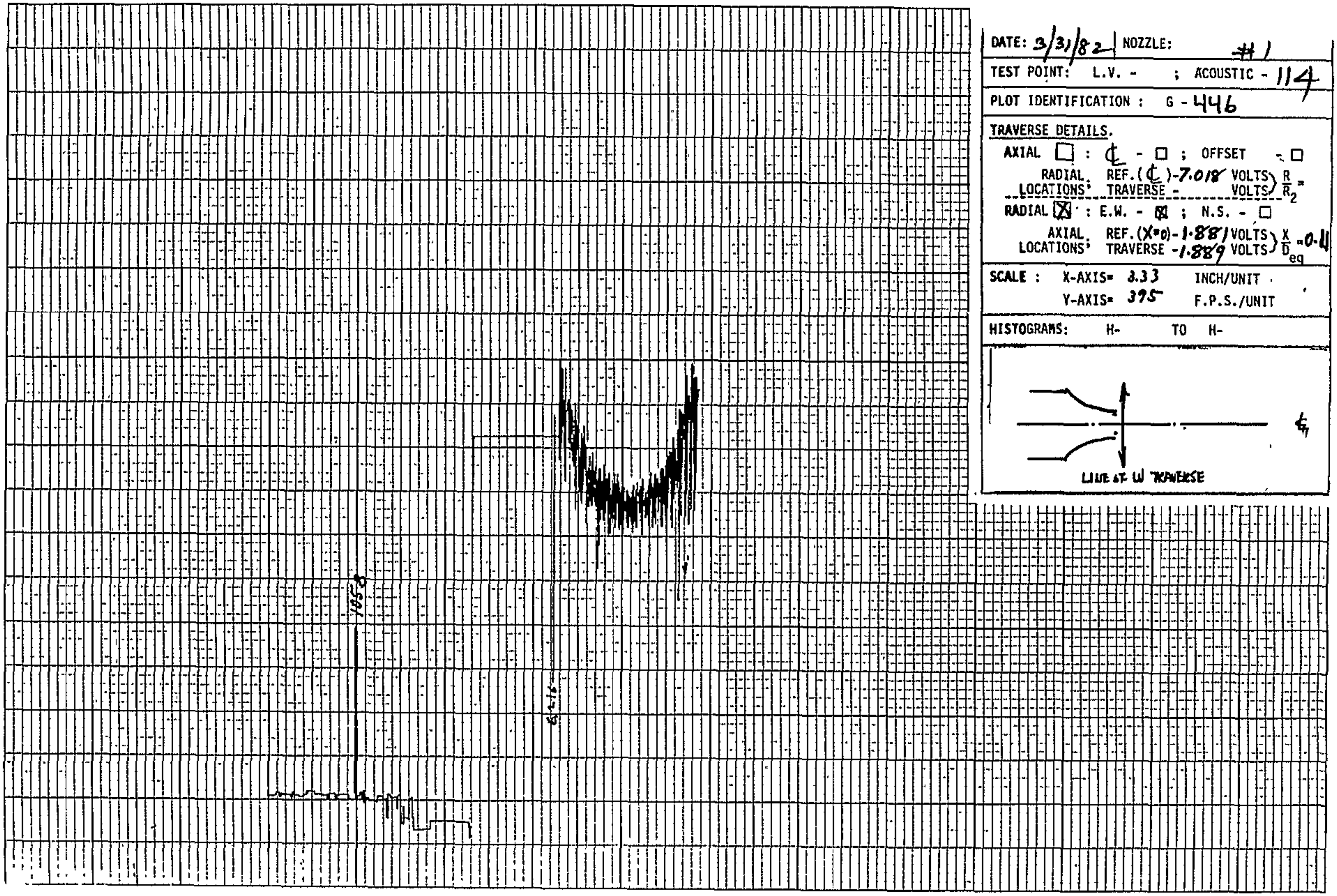
HISTOGRAMS: H- TO H-



P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1734 °R, D_{eq} = 5.09 in.

V_j = 2425 f/s, h = - in.



DATE: 3/31/82 NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 114

PLOT IDENTIFICATION : G - 446

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)-7.018 VOLTS; TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.(X=0)-1.881 VOLTS; TRAVERSE -1.889 VOLTS } $\frac{X}{D_{eq}}$ = 0.4

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

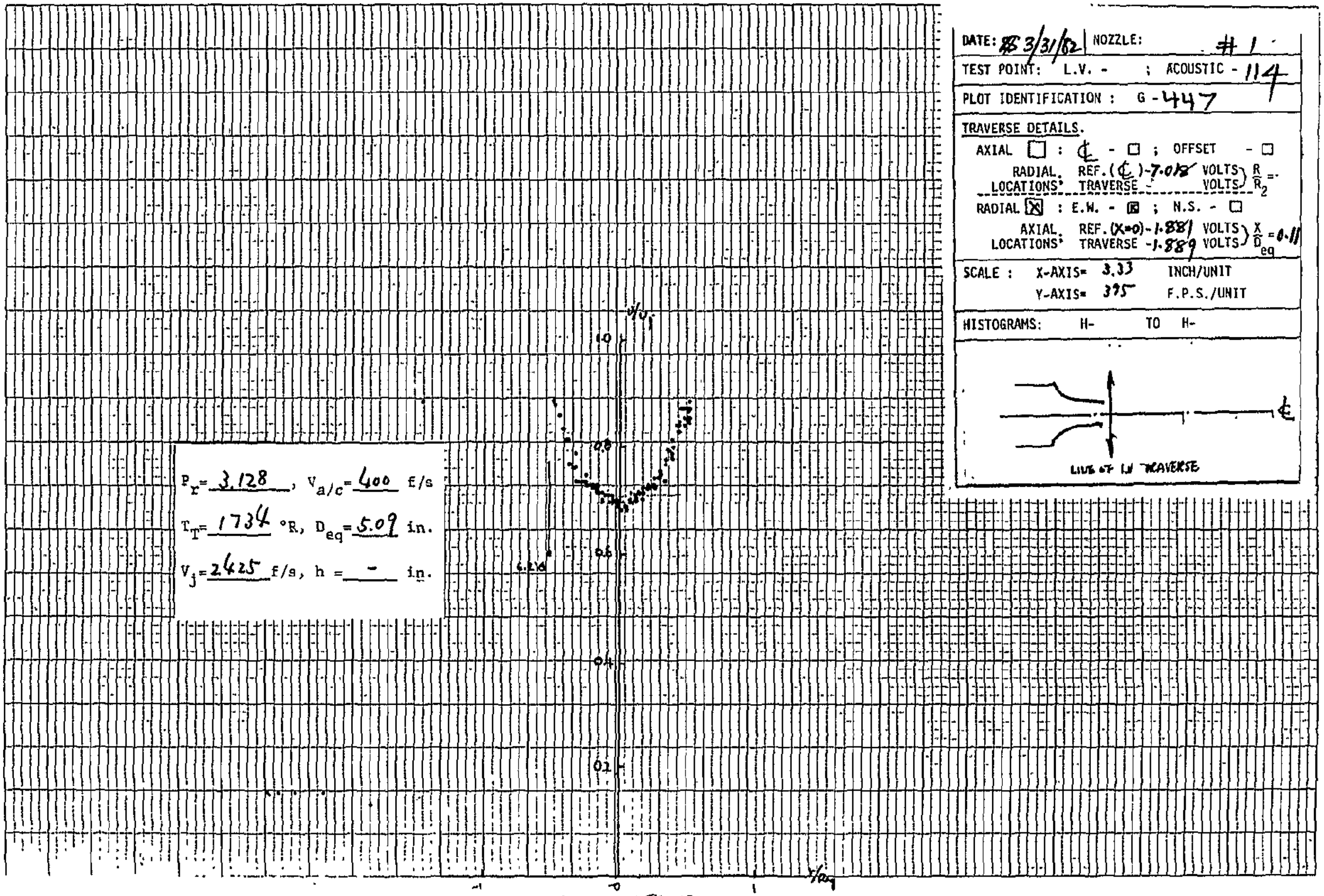
HISTOGRAMS: H- TO H-

℄

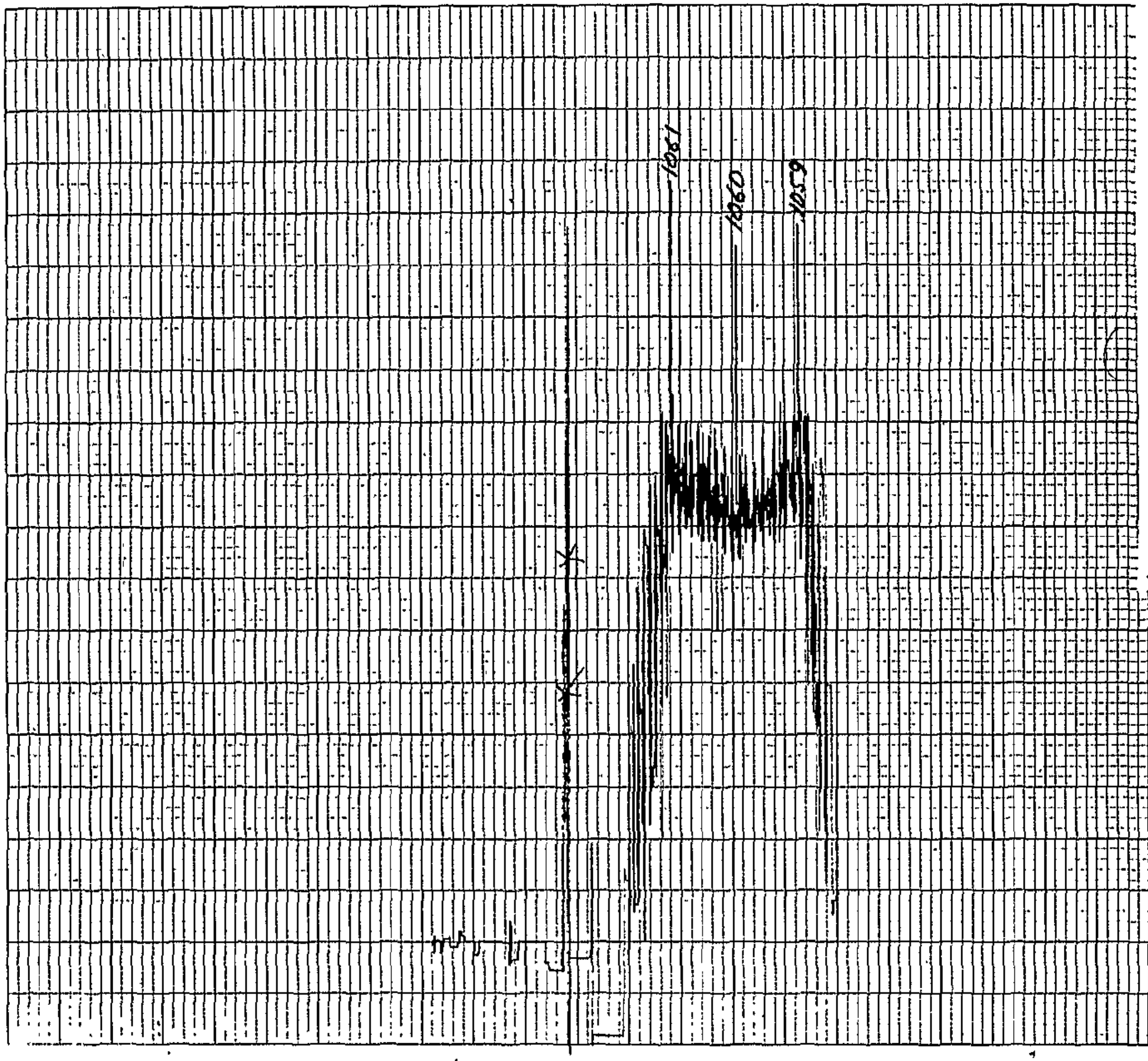
LINE AT W TRAVERSE

820

NO. XY 1101



DATE: 3/31/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 114
PLOT IDENTIFICATION : G-447
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄)-7.018 VOLTS; TRAVERSE - VOLTS; R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF. (X=0)-1.881 VOLTS; TRAVERSE -1.889 VOLTS; X/Deq = 0.11
SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
Pr = 3.128, Va/c = 400 f/s
TT = 1734 °R, Deq = 5.09 in.
Vj = 2425 f/s, h = - in.
V/Vj
1.0
0.8
0.6
0.4
0.2
0.216
-1
0
1
r/Deq



DATE: 3/31/82 | NOZZLE: CC #1

TEST POINT: L.V. - ; ACOUSTIC - 114

PLOT IDENTIFICATION : G - 448

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS, TRAVERSE - VOLTS $\frac{R}{R_2}$ =

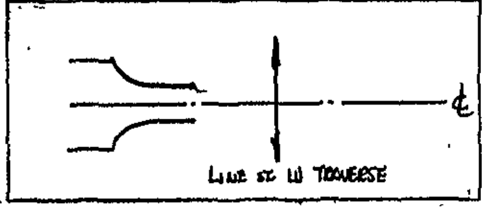
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.(X=0)-1.881 VOLTS, TRAVERSE -2.097 VOLTS $\frac{X}{D_{eq}}$ =3.01

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H-1059 TO H-1061



DATE: 3/31/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 114	
PLOT IDENTIFICATION : G - 449	

TRAVERSE DETAILS.

AXIAL ☐ : ₵ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (₵) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - -1.881 VOLTS; TRAVERSE -2.097 VOLTS; $\frac{X}{D_{eq}}$ = 3.01

SCALE : X-AXIS = 3.33 INCH/UNIT; Y-AXIS = 395 F.P.S./UNIT

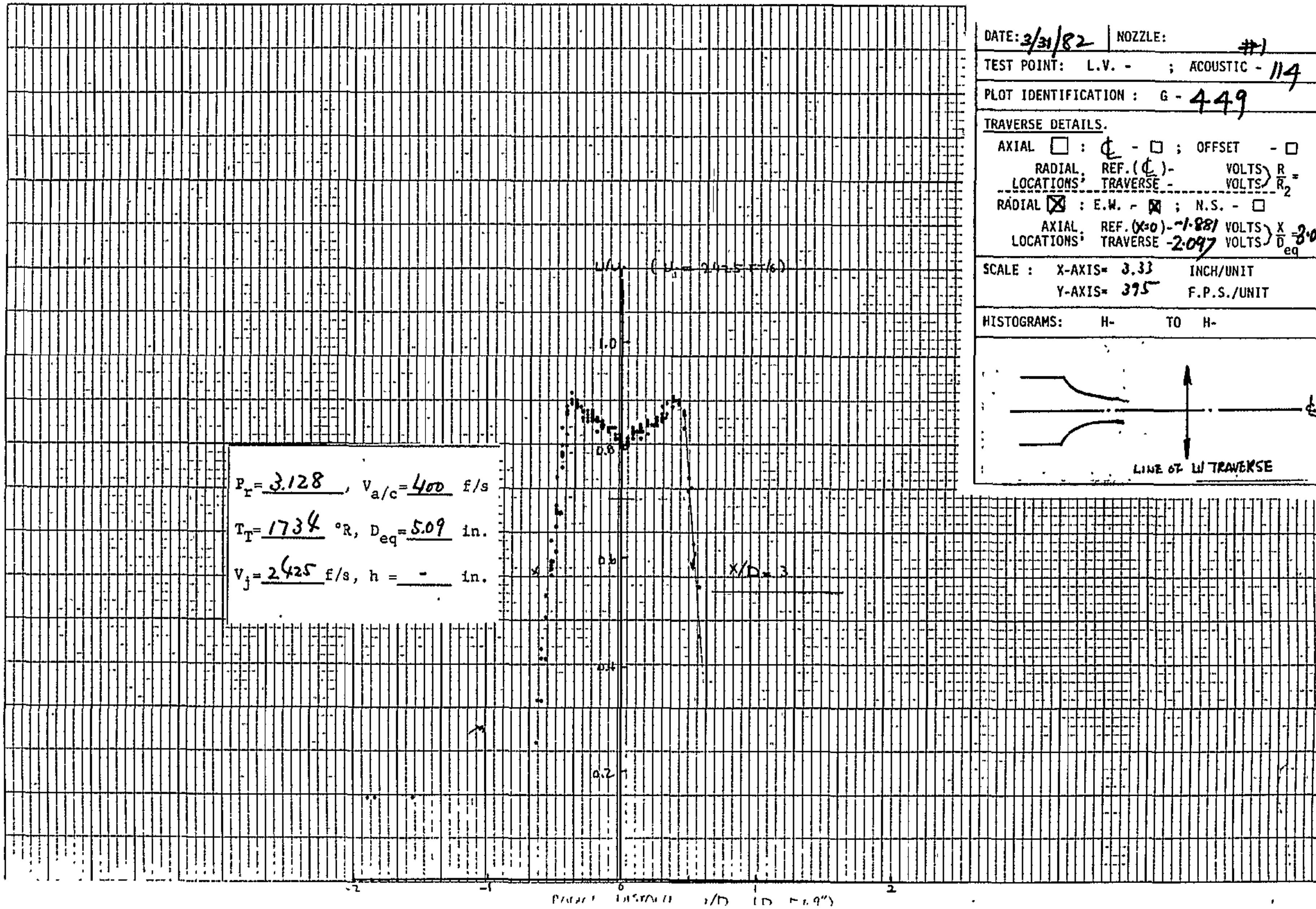
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

P_r = 3.128, $V_{a/c}$ = 400 f/s

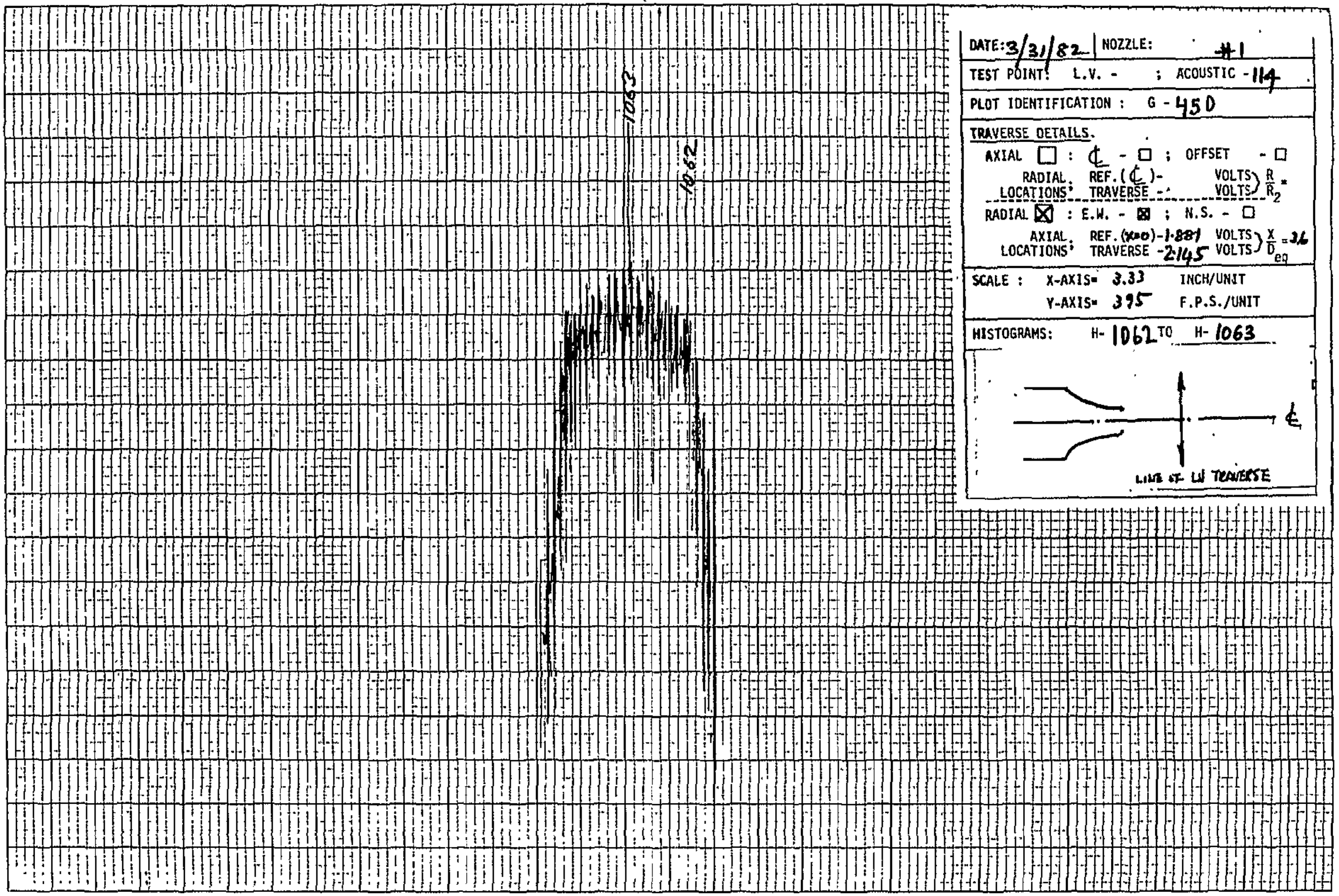
T_T = 1734 °R, D_{eq} = 5.09 in.

V_j = 2425 f/s, h = - in.



NO. XY 1101

823



DATE: 3/31/82	NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 114	
PLOT IDENTIFICATION : G - 45D	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (x=0) - 1.881 VOLTS; TRAVERSE - 2.145 VOLTS } $\frac{X}{D_{eq}}$ = 3.6

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H-1062 TO H-1063

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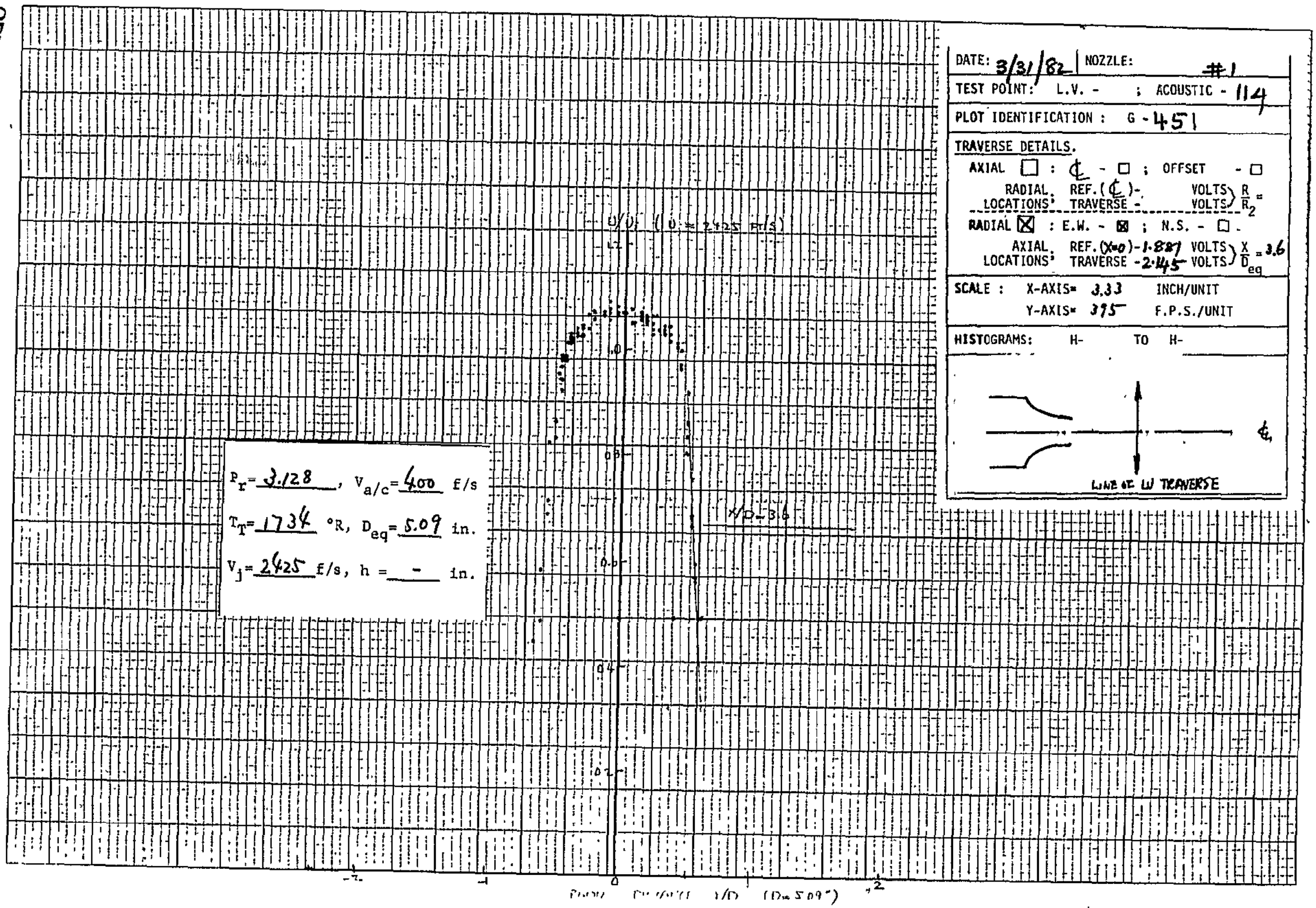

825

NO XY 1011

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BUFFALO, NEW YORK
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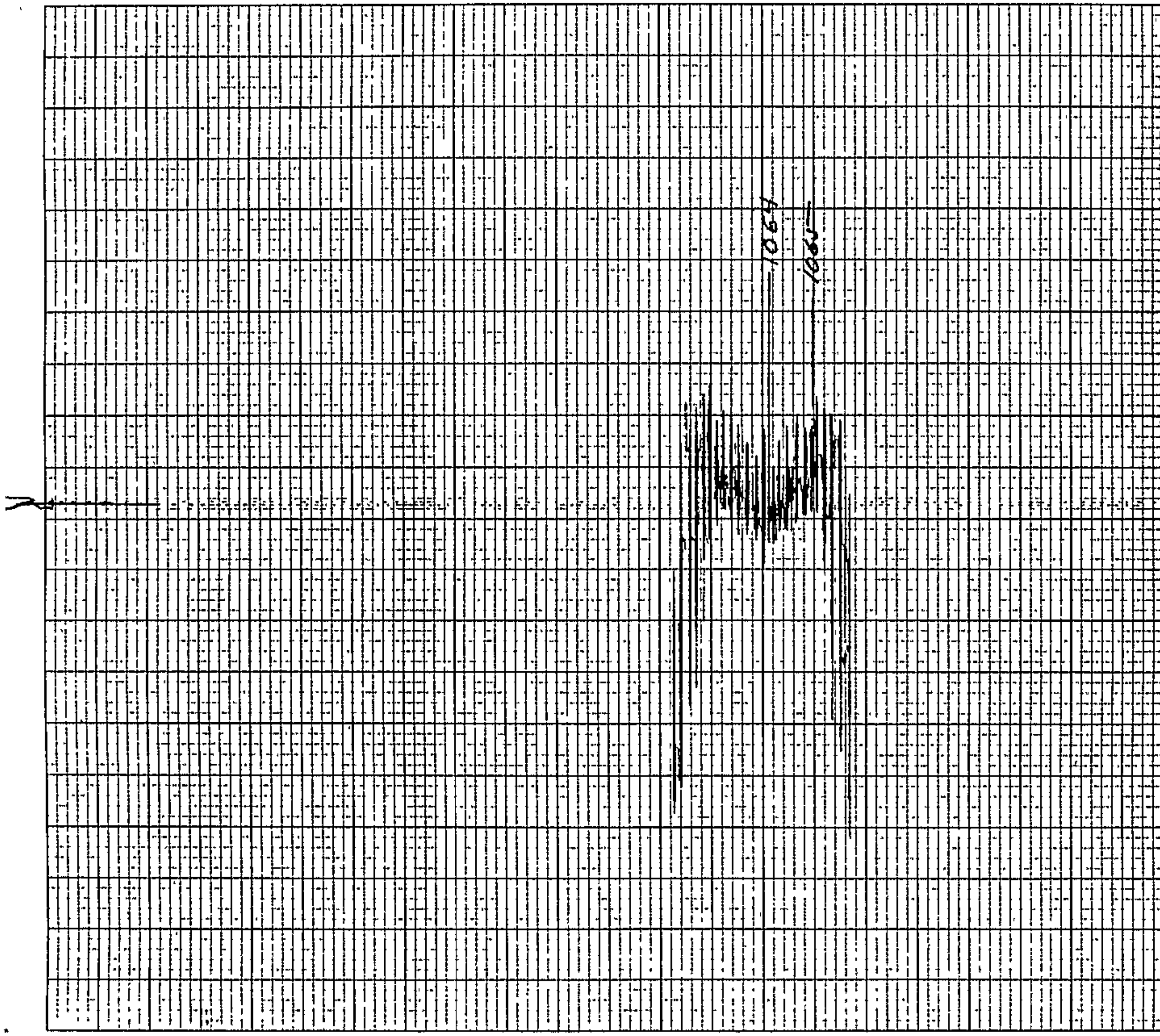


DATE: 3/31/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 114

PLOT IDENTIFICATION : G - 452

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

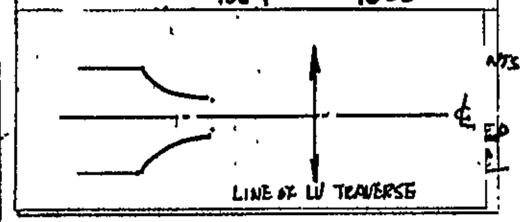
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.881 VOLTS; TRAVERSE - 2.195 VOLTS; $\frac{X}{D_{eq}}$ = 4.3

SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- 1064 TO H- 1065



DATE: 3/31/82 | NOZZLE: #1

TEST POINT: L.V. - ; ACOUSTIC - 114

PLOT IDENTIFICATION : G - 453

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - , VOLTS; TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. (X=0) - 1.881 VOLTS; TRAVERSE - 2.195 VOLTS } $\frac{X}{D_{eq}}$ = 4.3

SCALE : X-AXIS = 3.33 INCH/UNIT; Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

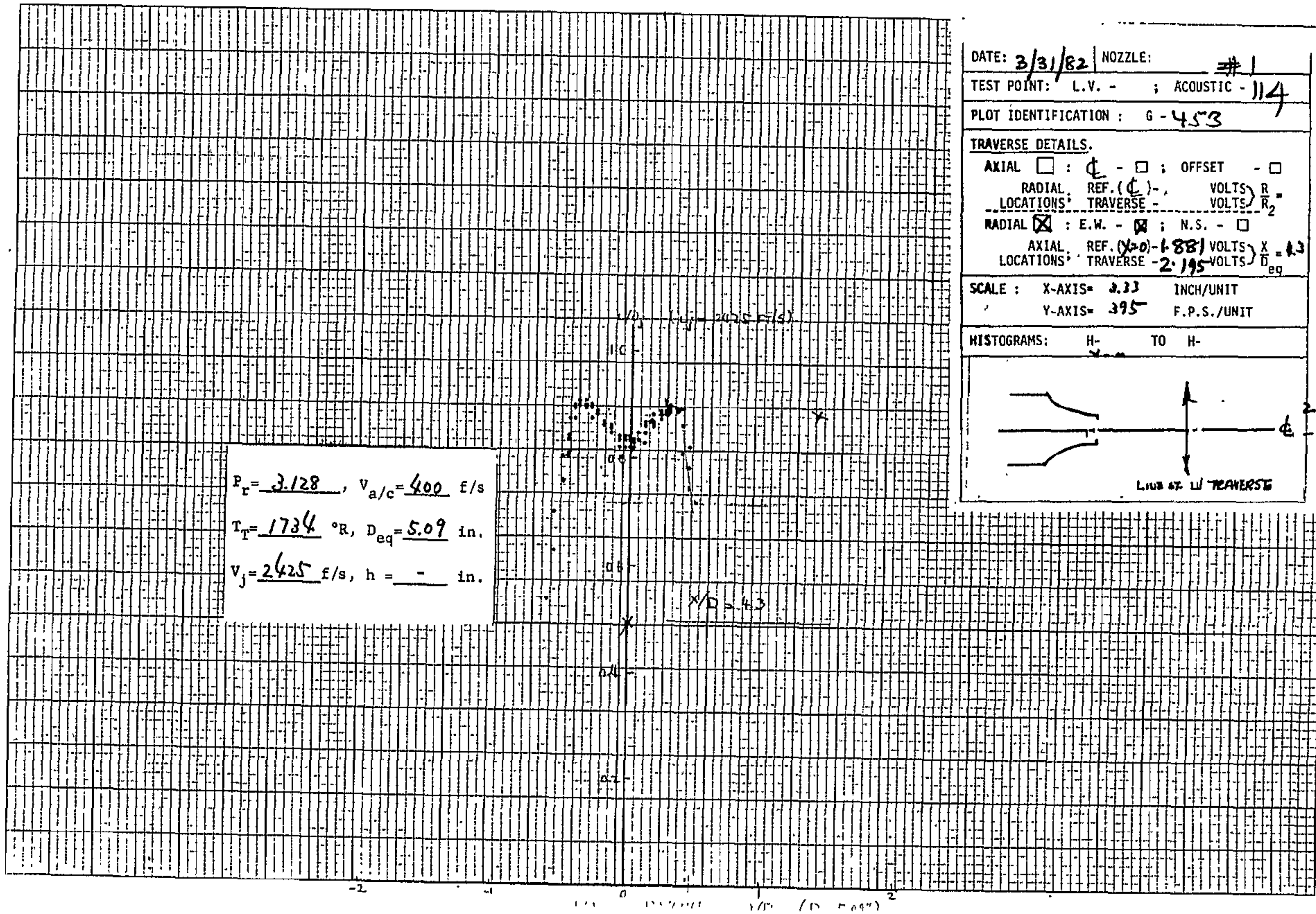
℄

LINE OF TRAVERSE

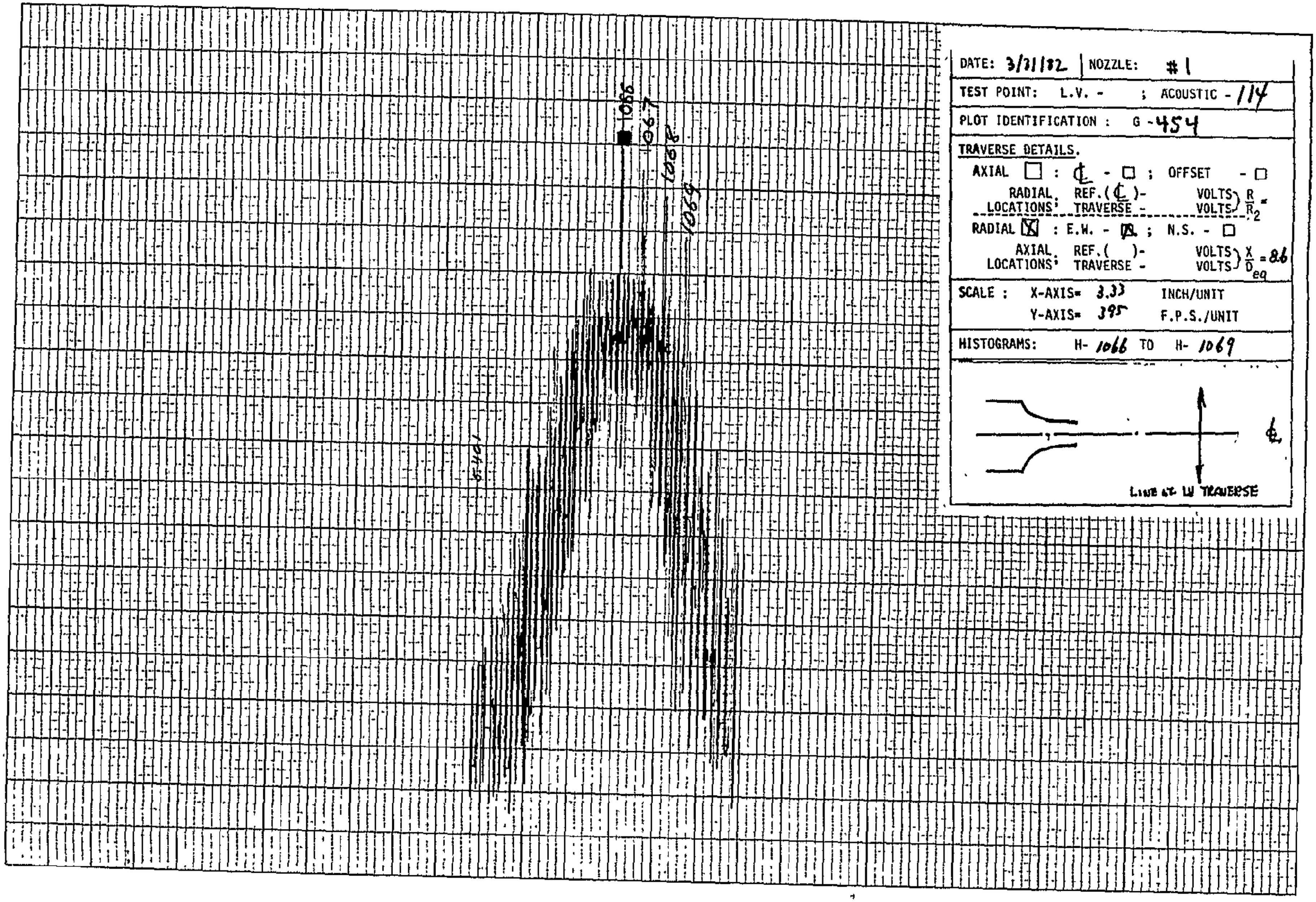
P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1734 °R, D_{eq} = 5.09 in.

V_j = 2425 f/s, h = - in.



827



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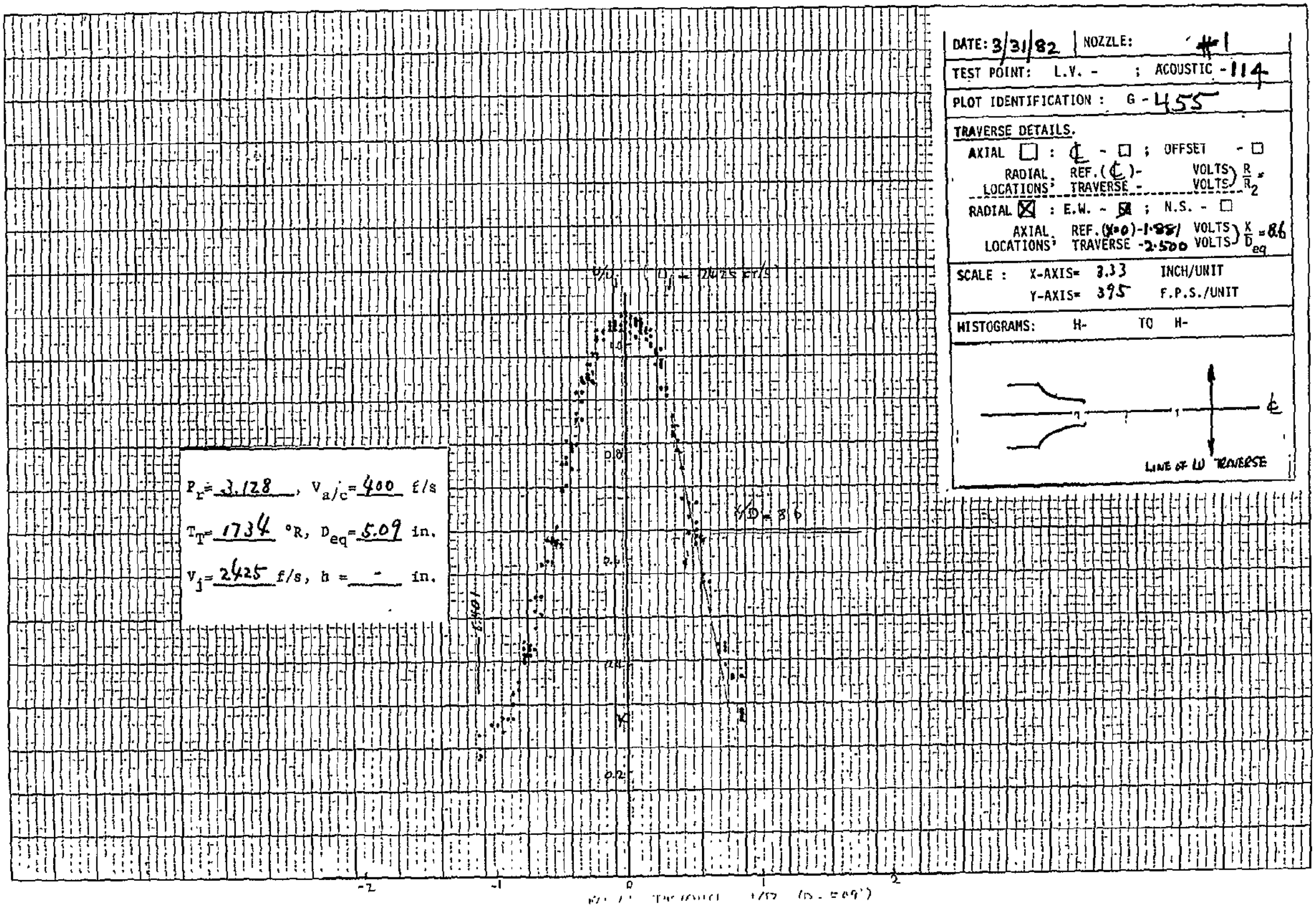
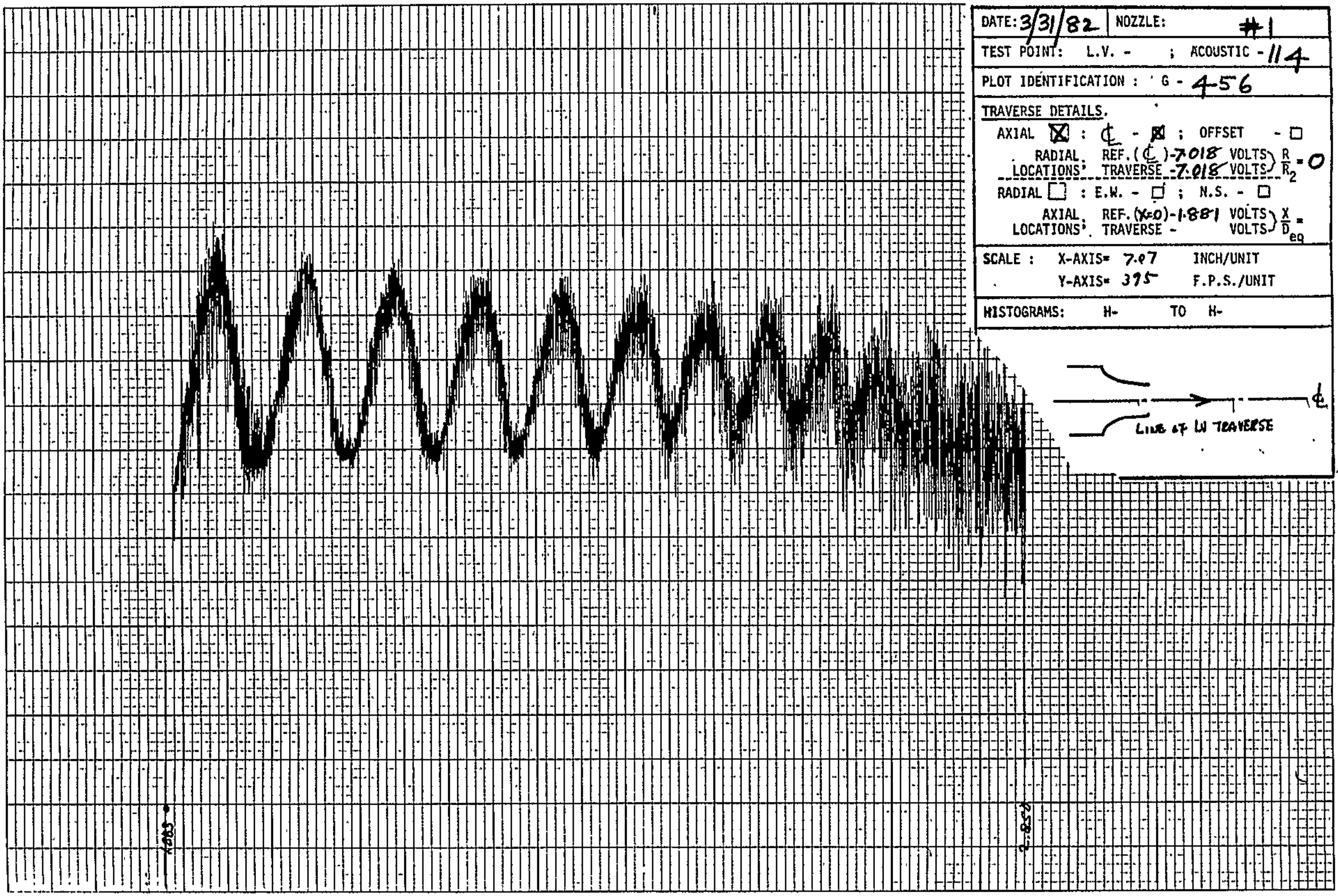

DATE: 3/31/82 NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 114
PLOT IDENTIFICATION : G - 455
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- VOLTS; TRAVERSE - VOLTS; R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.(X=0)-1.851 VOLTS; TRAVERSE -2.500 VOLTS; X/Deq = 8.6
SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.128 , Va/c= 400 f/s
TT= 1734 °R, Deq= 5.09 in.
Vj= 2425 f/s, h = - in.
X/D = 8.6
0.8
0.2
-2
-1
0
1
2



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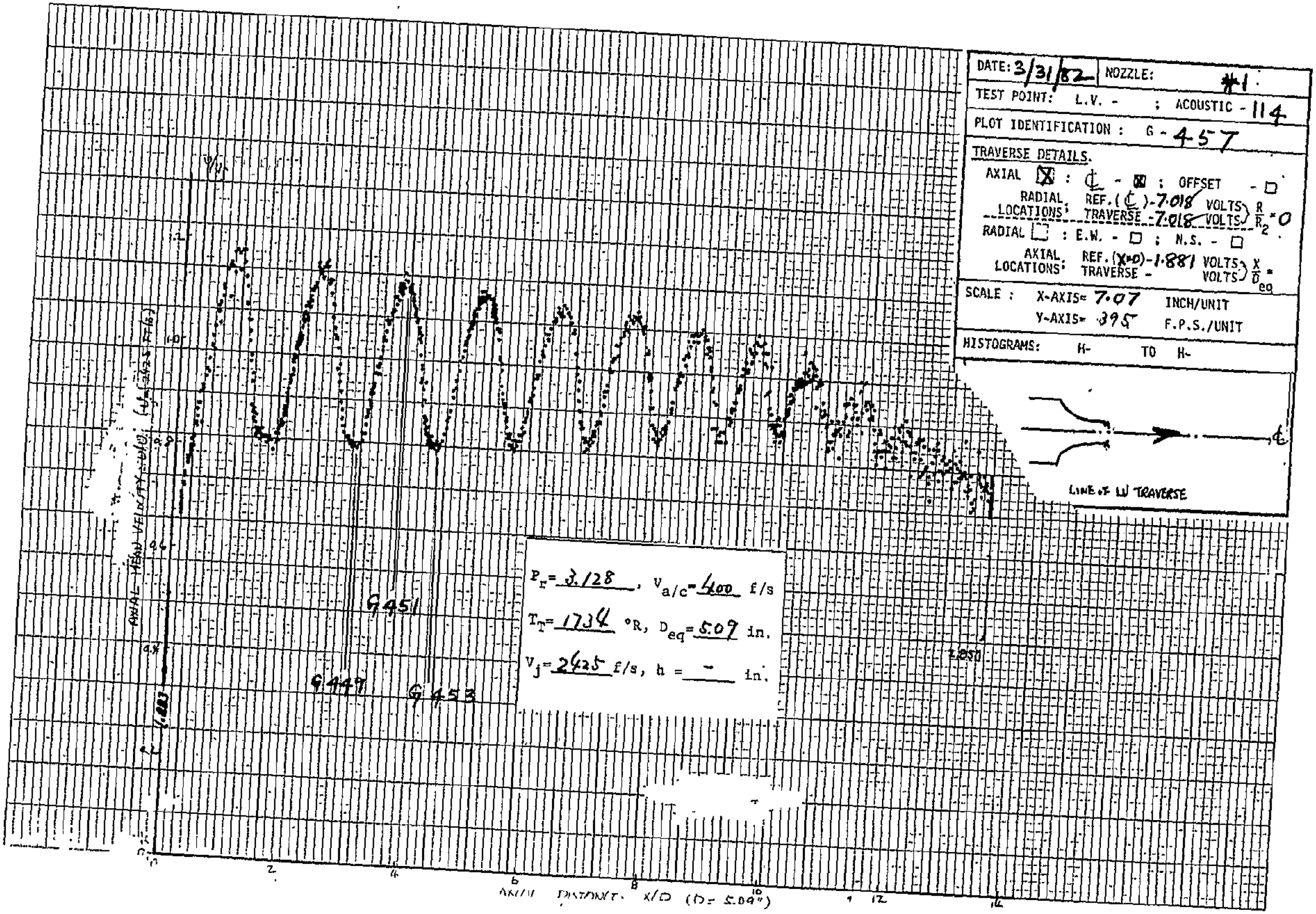


DATE: 3/31/82
NOZZLE: #1
TEST POINT: L.V. - ; ACOUSTIC - 114
PLOT IDENTIFICATION : G-457
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)-7.018 VOLTS; TRAVERSE -7.018 VOLTS; R/R2 = 0
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.(X=0)-1.881 VOLTS; TRAVERSE - VOLTS; X/Deq =
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= .395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr = 3.128, Va/c = 400 f/s
TT = 1734 °R, Deq = 5.09 in.
Vj = 2425 f/s, h = - in.
G449
G451
G453
AXIAL MEAN VELOCITY, U/Uj (Uj=2425 ft/s)
AXIAL DISTANCE, X/D (D= 5.09")

DATE: 4/7/82 NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4000

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ = 1

RADIAL □ : E.W. - □ ; N.S. - □

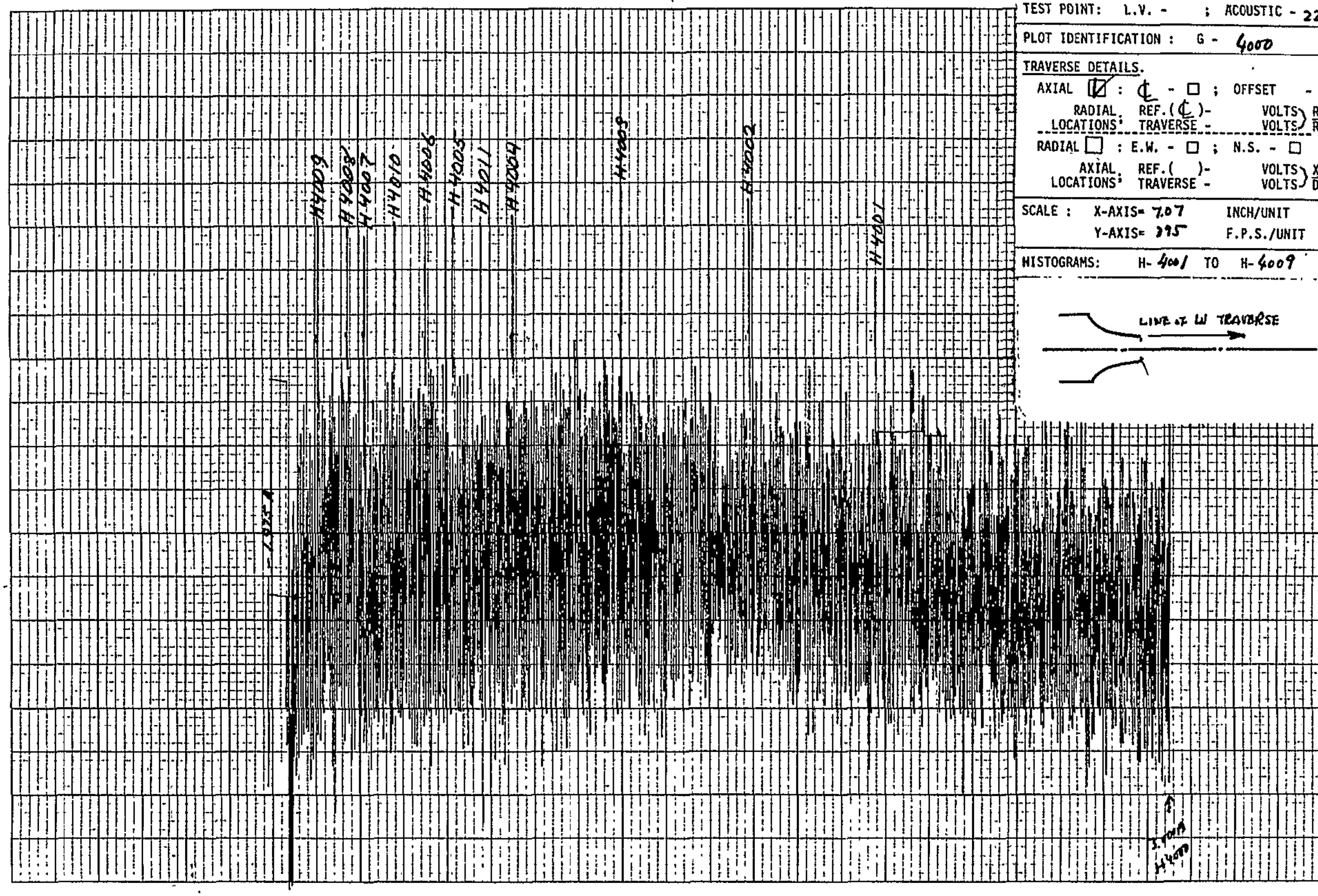
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 375 F.P.S./UNIT

HISTOGRAMS: H- 4001 TO H- 4009

LINE OF ℄ TRAVERSE ℄



DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4001

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

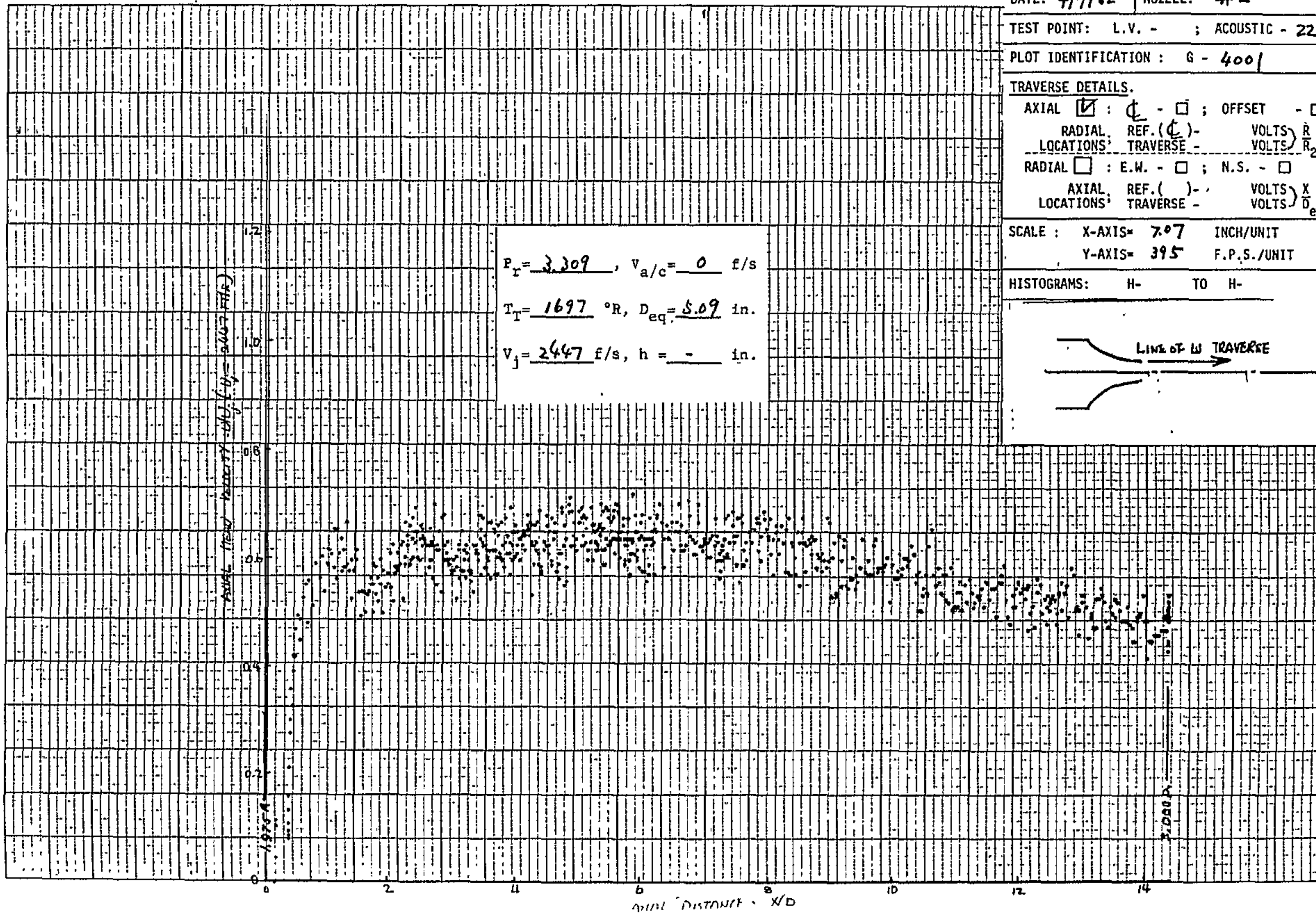
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

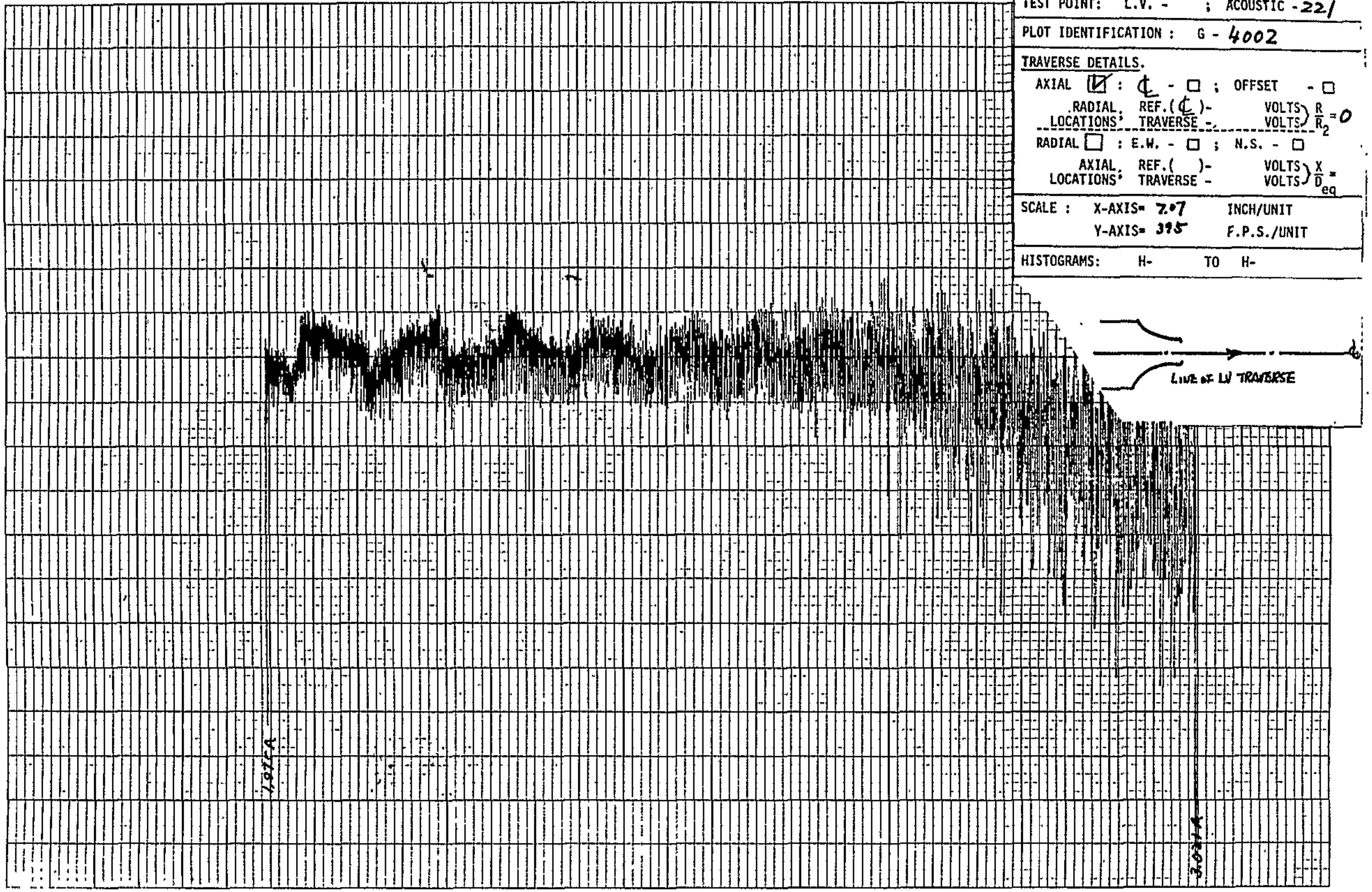
SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE ℄





DATE: 4/7/82	NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4002

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF.(℄)- TRAVERSE -, VOLTS/VOLTS $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

DATE: 4/8/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4003

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ = 0

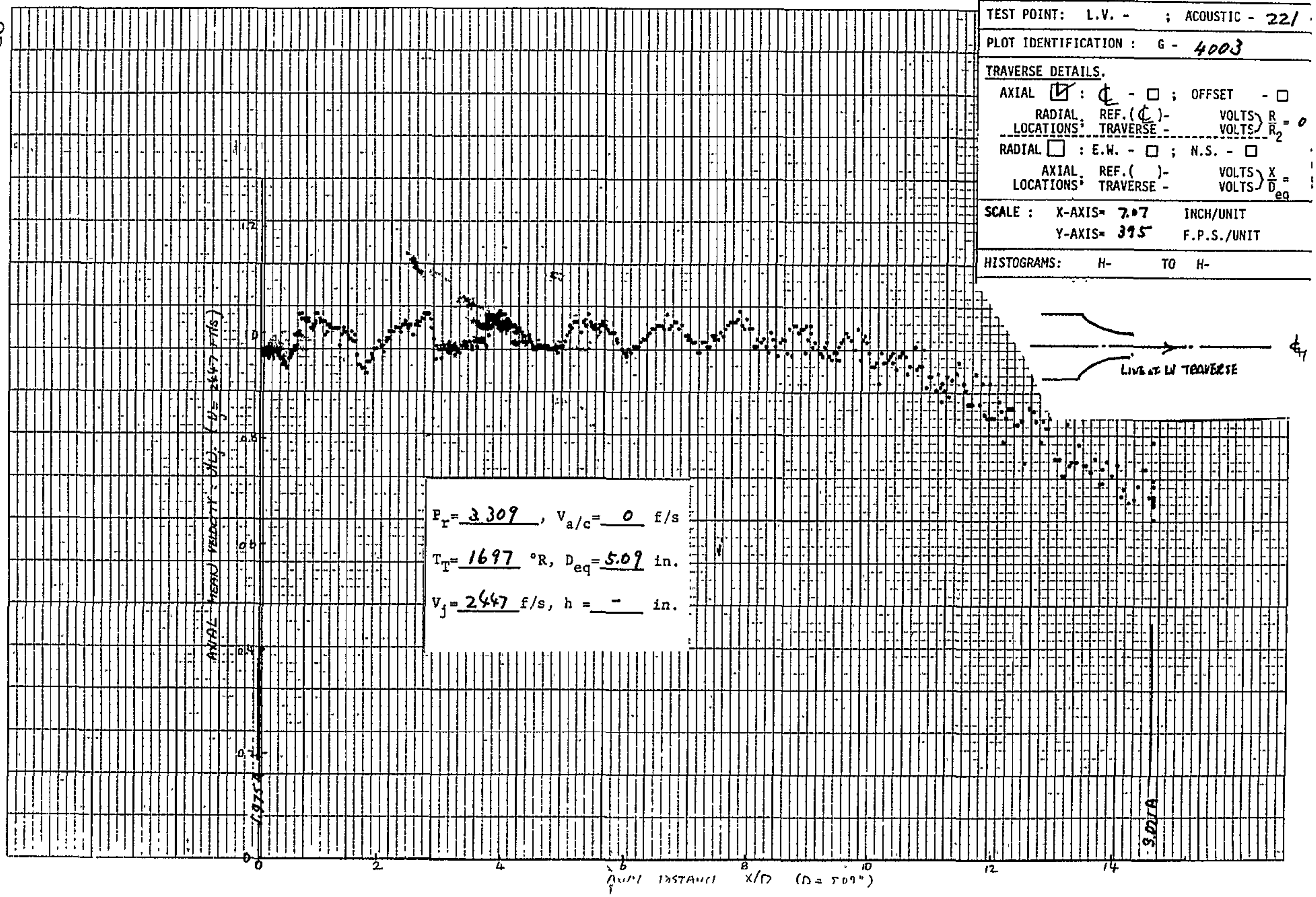
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4004

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8(

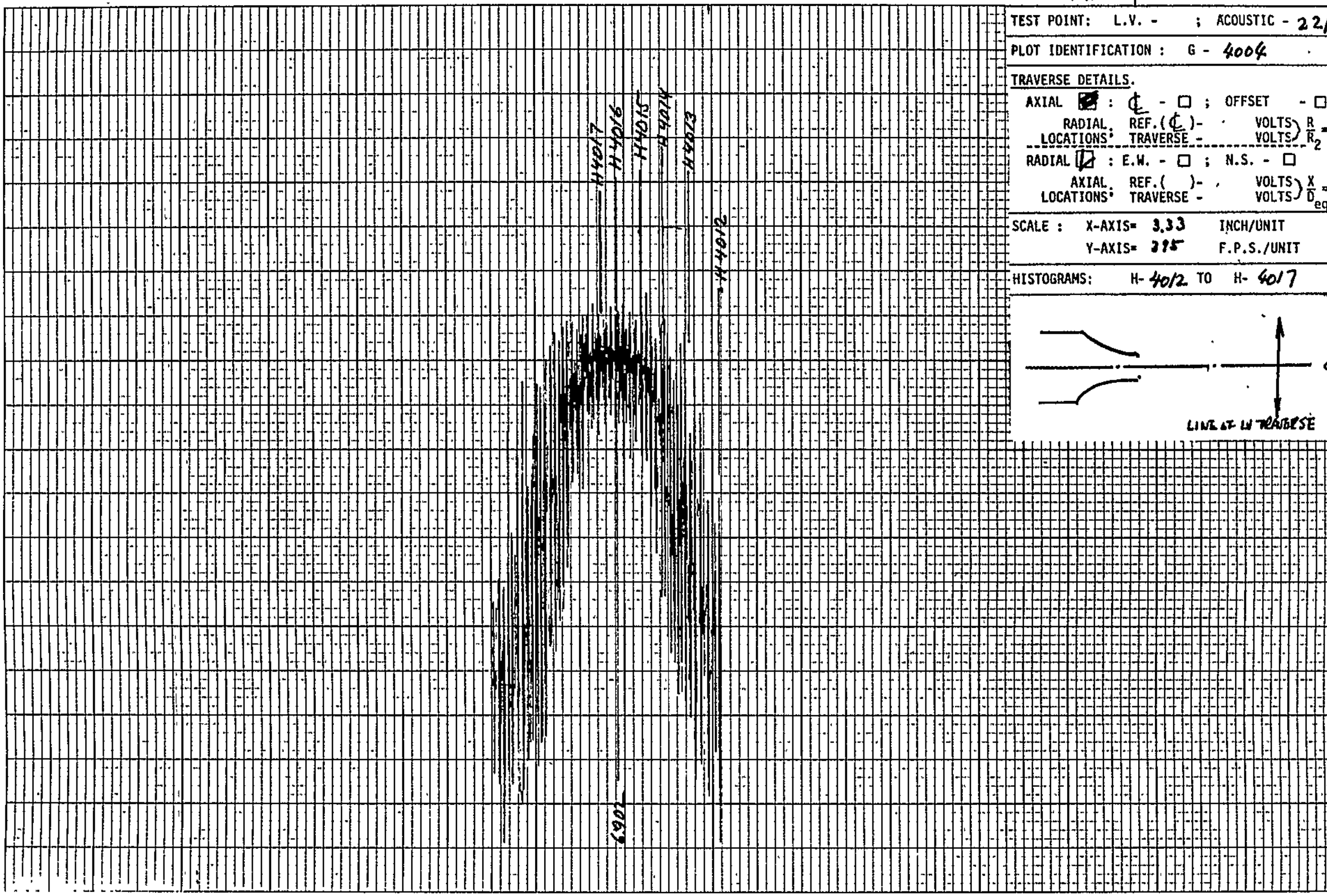
SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- 4012 TO H- 4017

℄

LINE OF LV TRAVERSE



NO. XY 1101

838

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839

DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4005

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)-TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

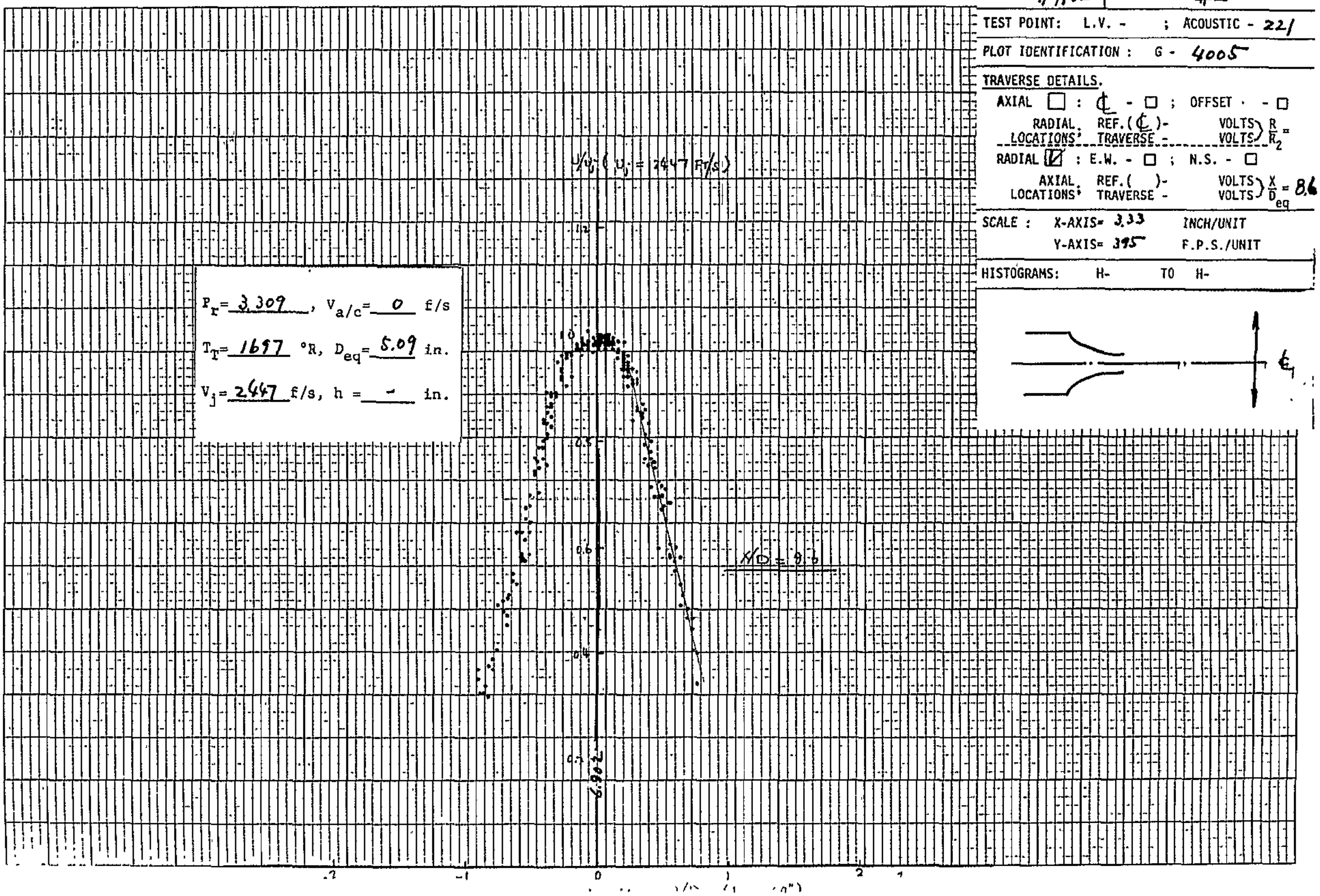
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )-TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8.6

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4006

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

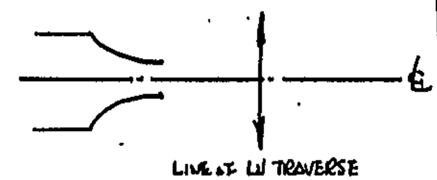
RADIAL ☒ : E.W. - ☐ ; N.S. - ☐

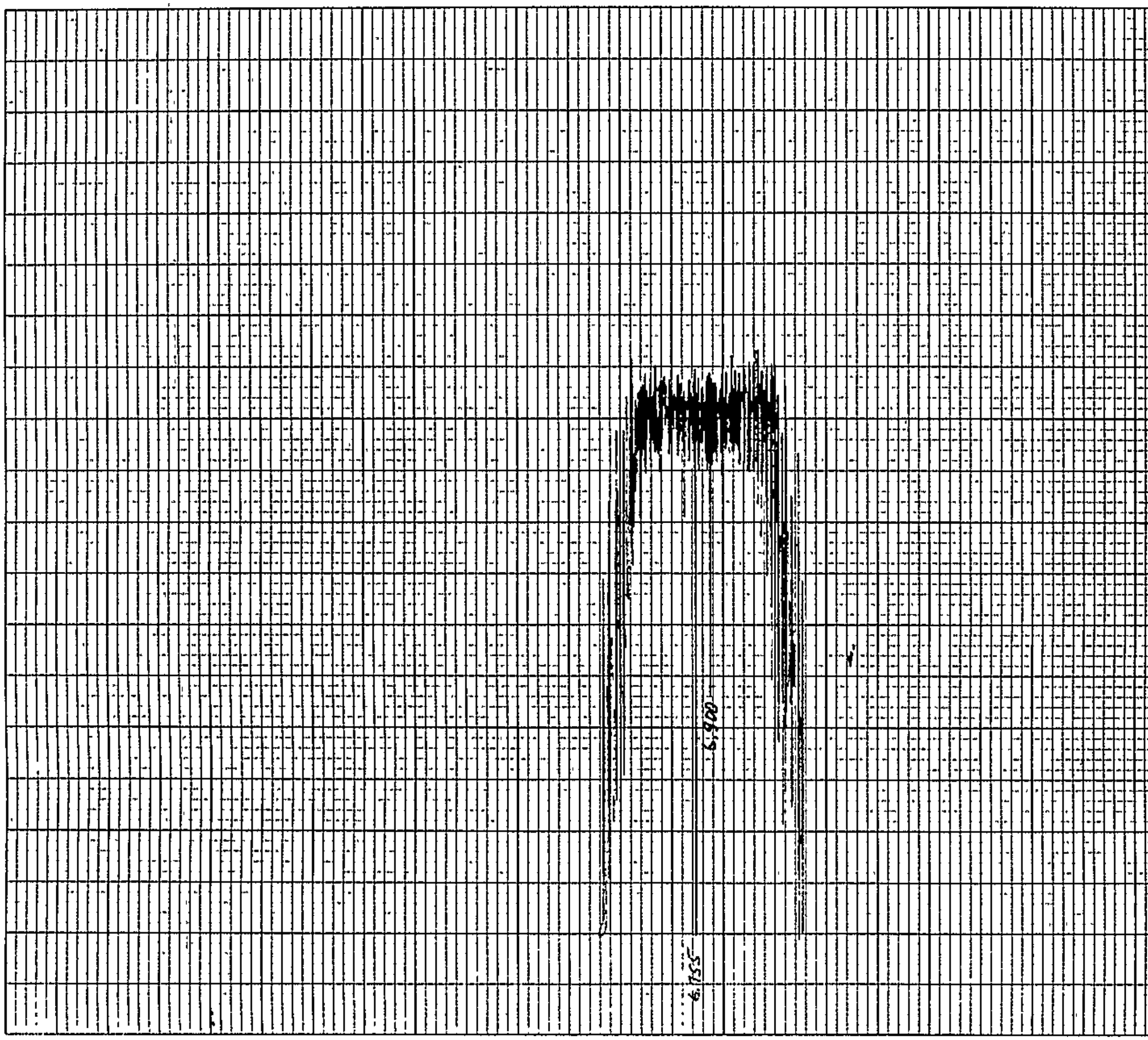
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 4

SCALE : X-AXIS = 3.33 INCH/UNIT

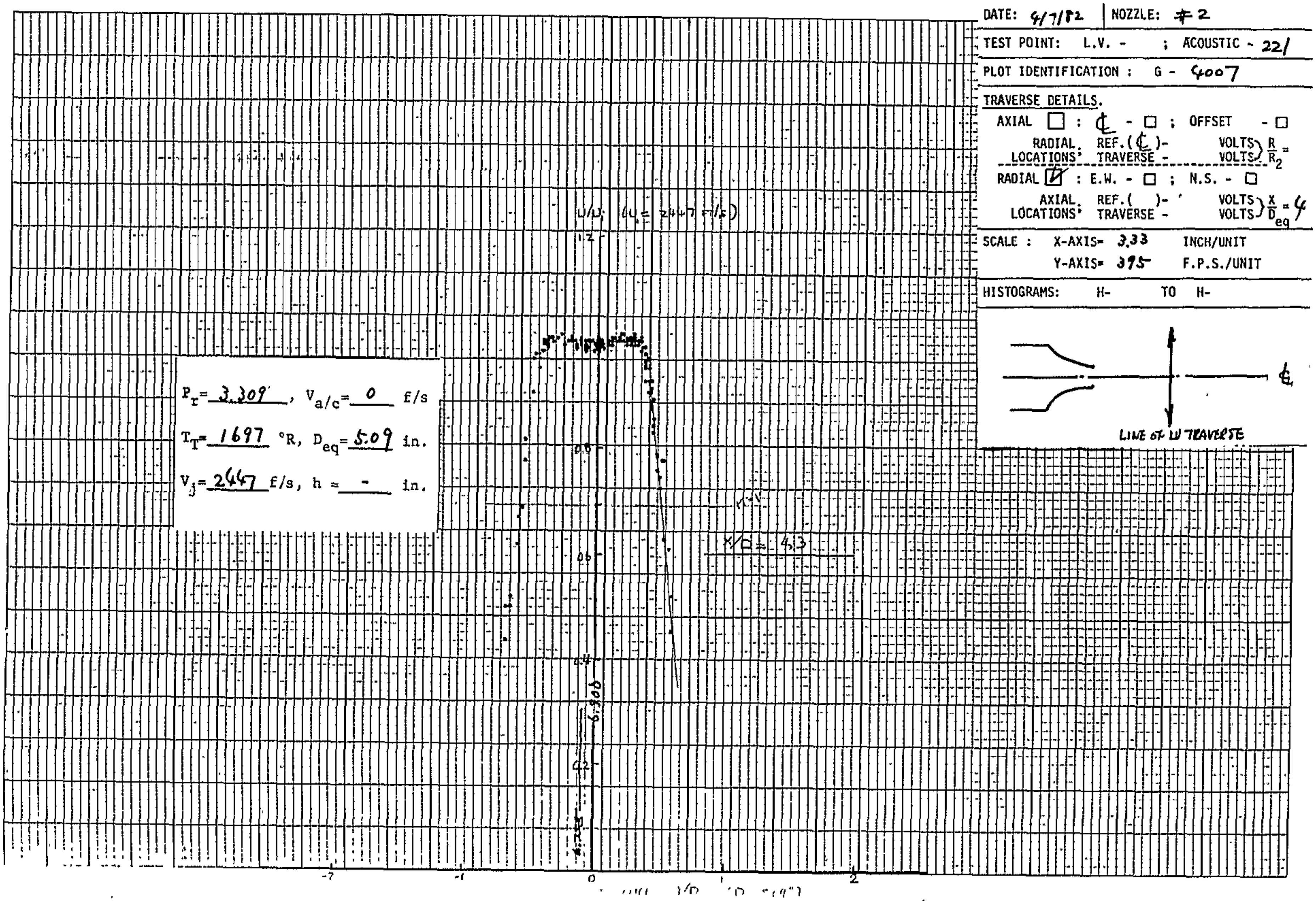
Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-





840



841

RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK

101 XY 11 ON

DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4008

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

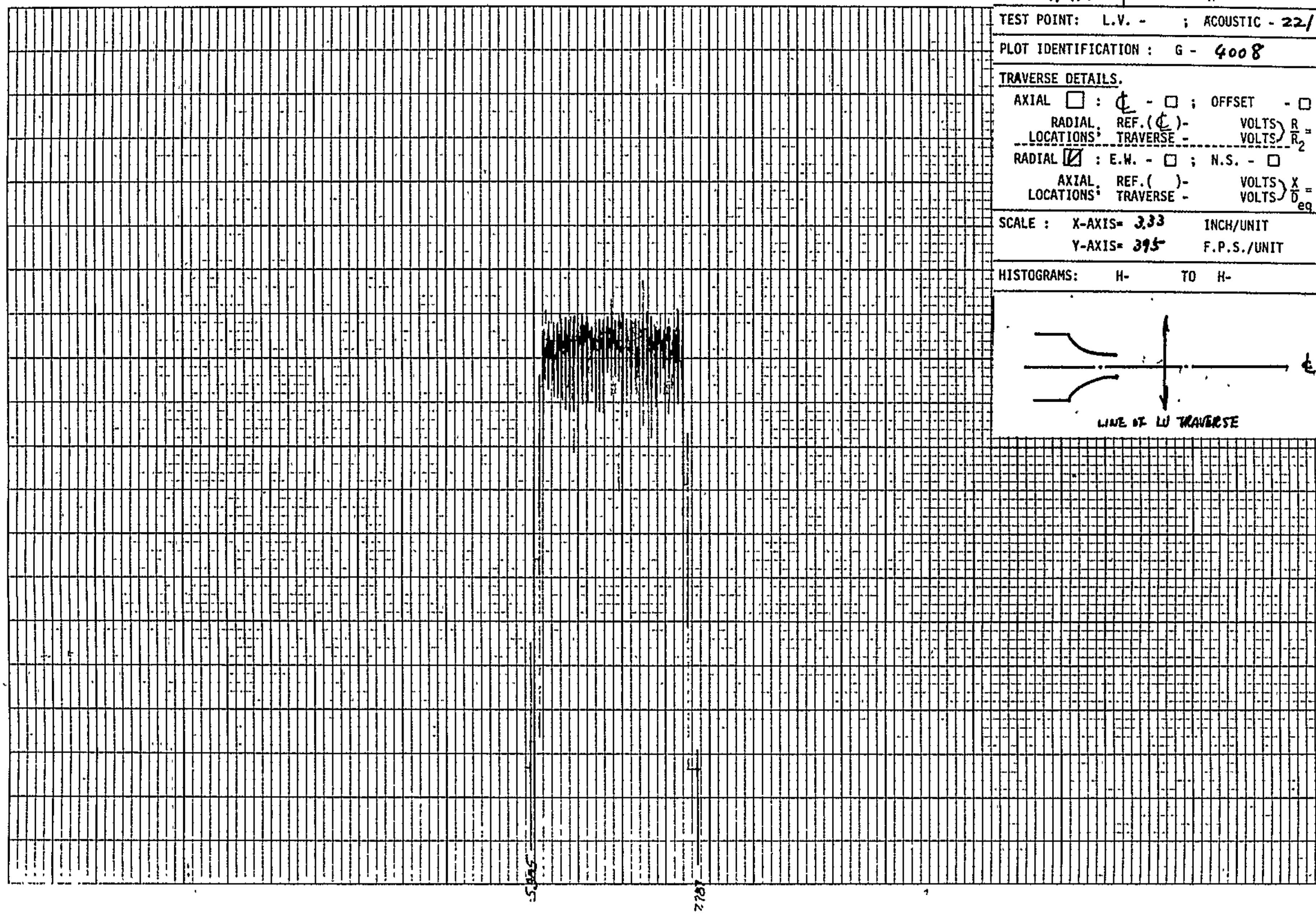
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 2

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 4/7/82	NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4009

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 2

SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 375 F.P.S./UNIT

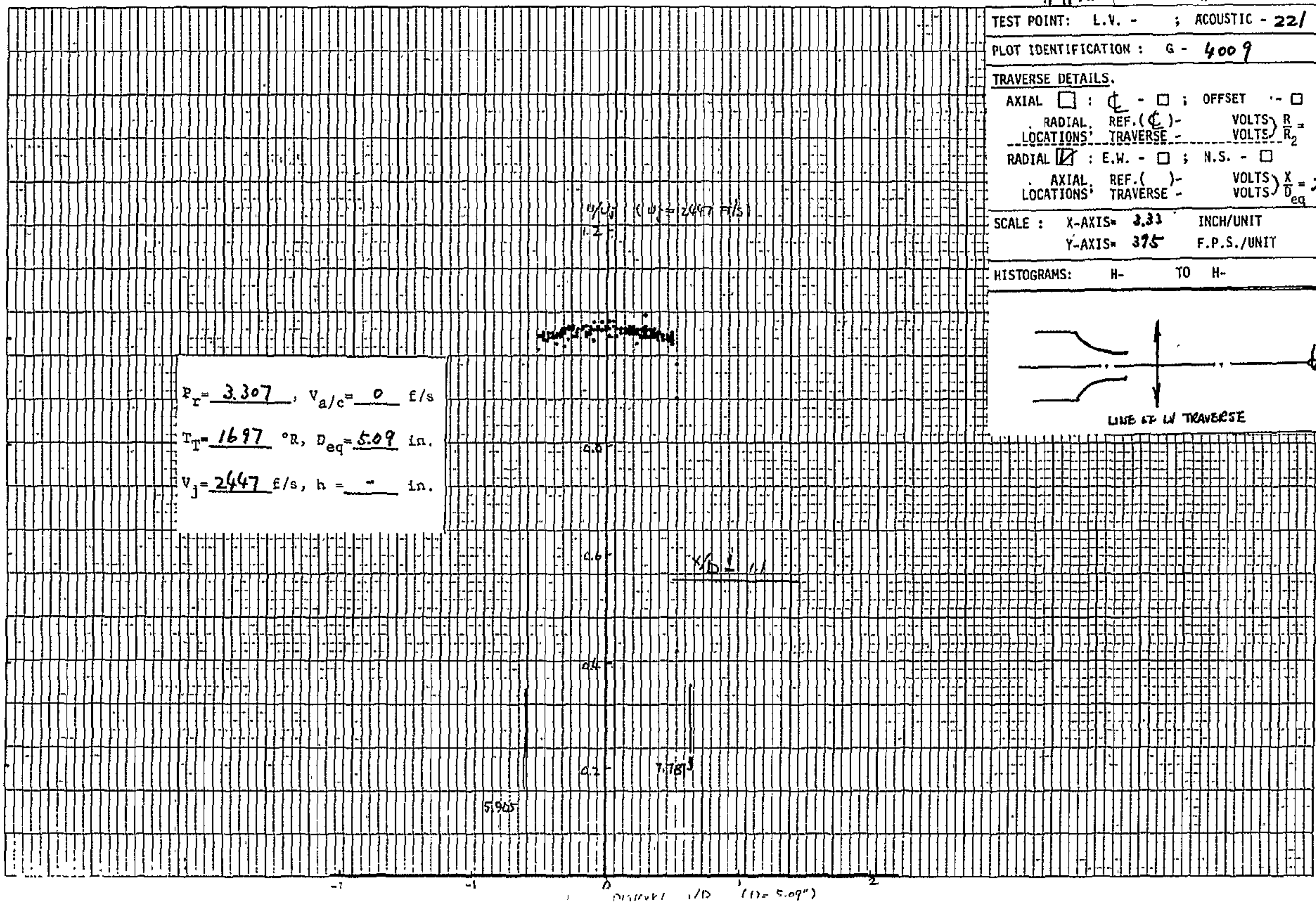
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

P_r = 3.307 , $V_{a/c}$ = 0 f/s

T_T = 1697 °R, D_{eq} = 5.09 in.

V_j = 2447 f/s, h = - in.



643

DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC -221

PLOT IDENTIFICATION : G - 4010

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

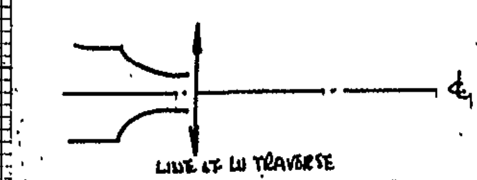
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

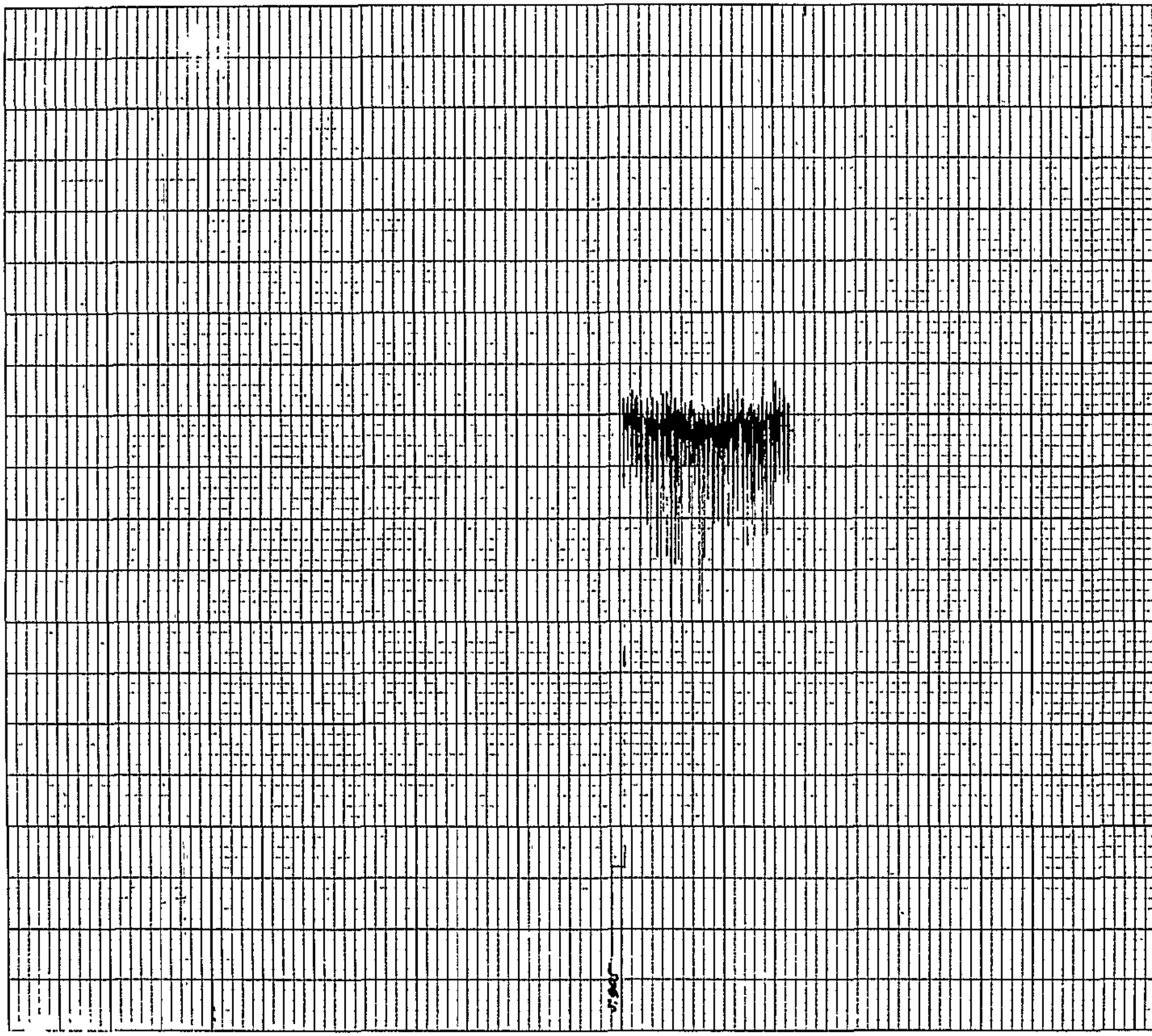
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 01

SCALE : X-AXIS= 2.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-





844

DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 221

PLOT IDENTIFICATION : G - 4011

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - . VOLTS/VOLTS $\frac{R}{R_2}$ =

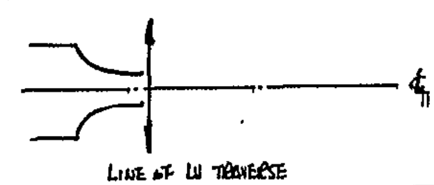
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 0.1

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

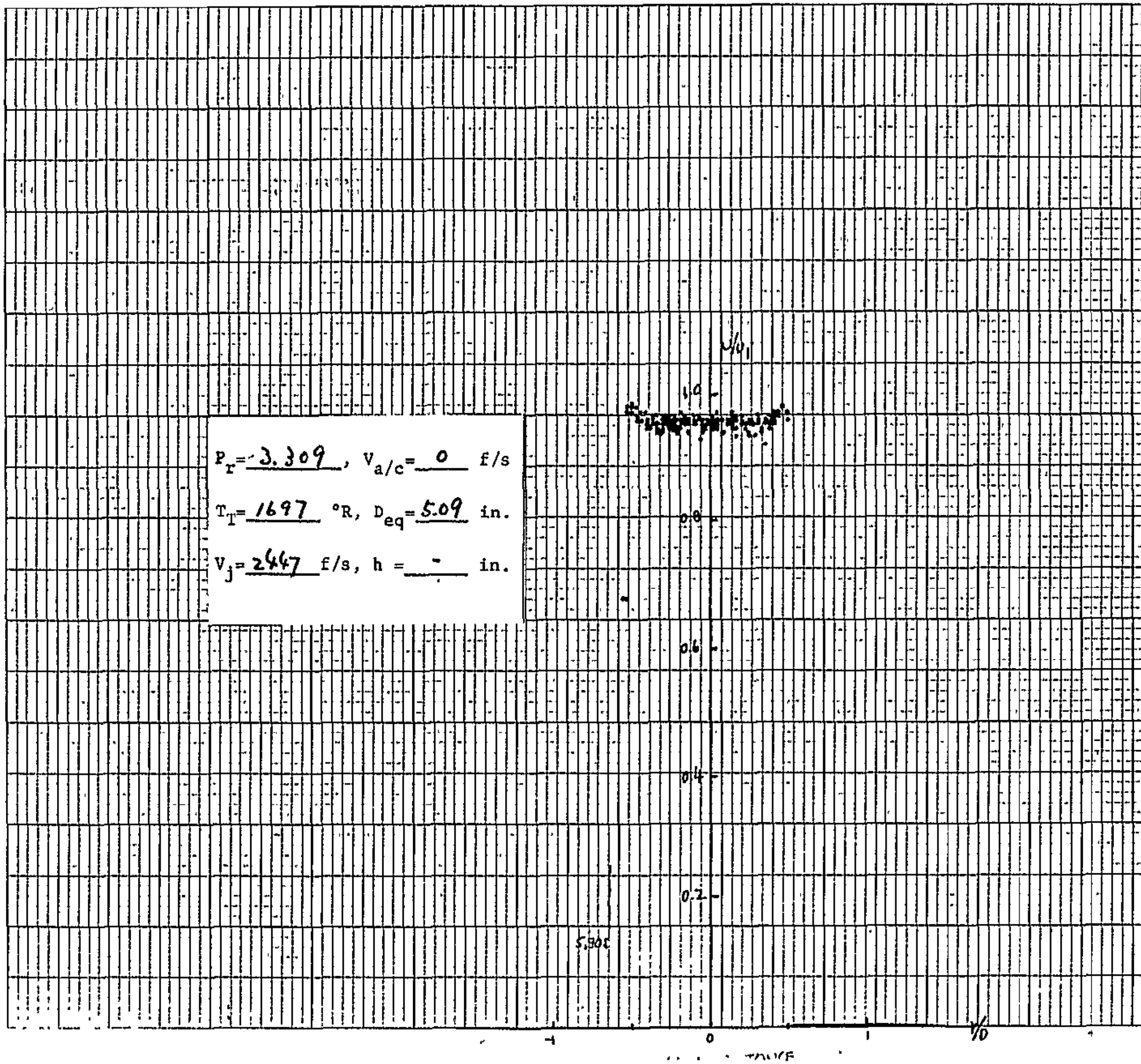
HISTOGRAMS: H- TO H-



P_r= 3.309, $V_{a/c}$= 0 f/s

T_T= 1697 °R, D_{eq}= 5.09 in.

V_j= 2447 f/s, h = - in.



DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 207

PLOT IDENTIFICATION : G - 4012

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2} = 0$

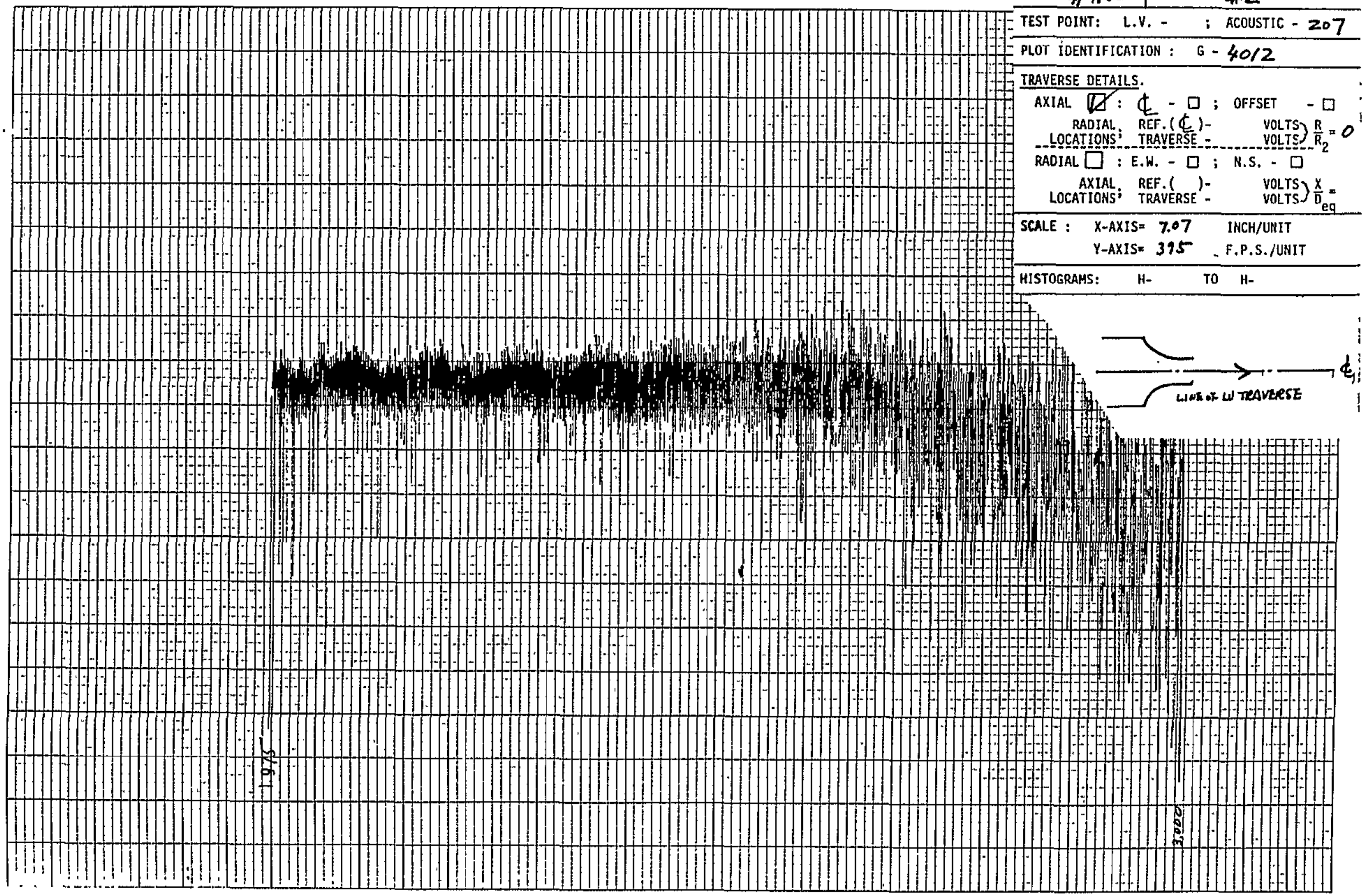
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

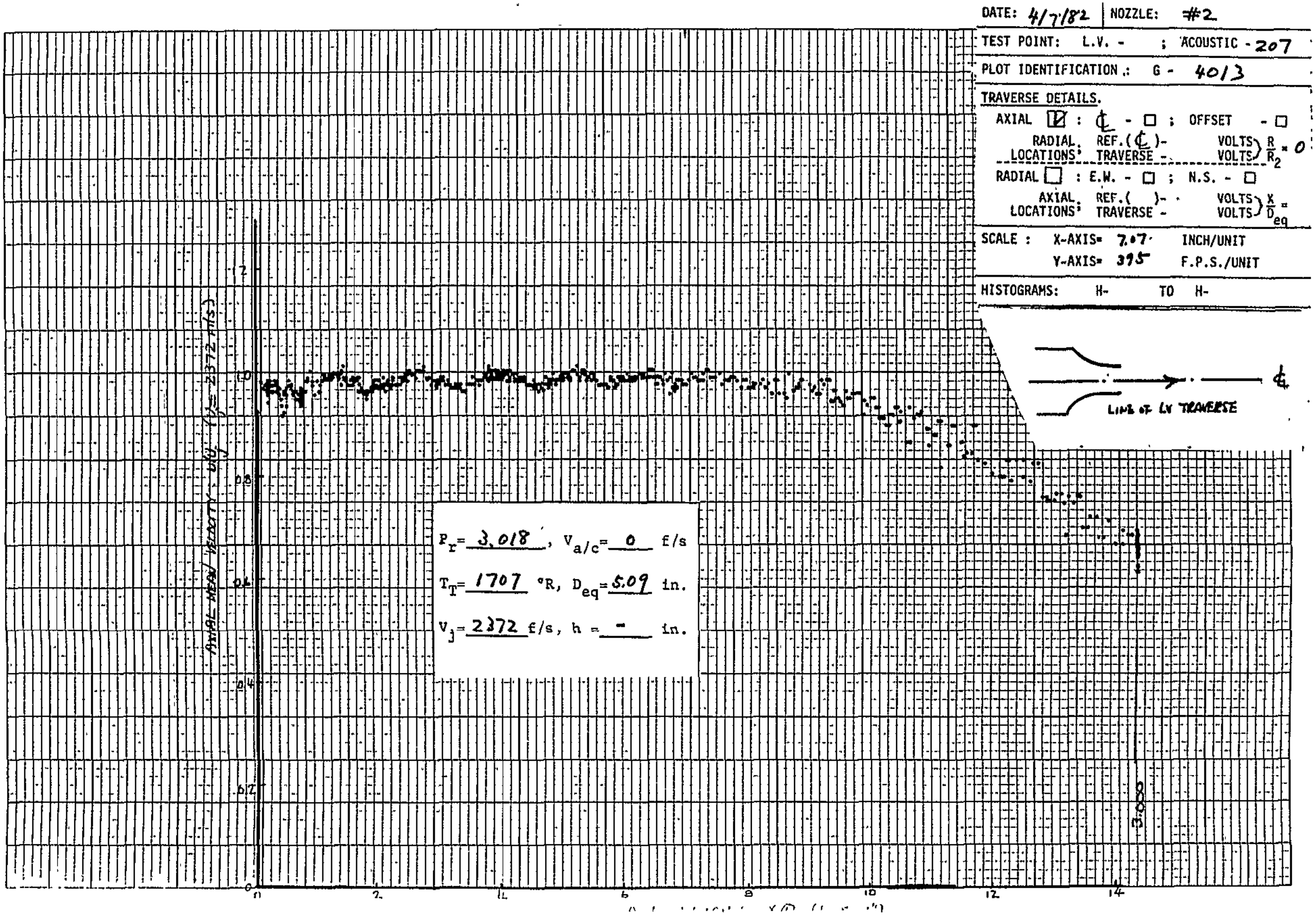
AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 207

PLOT IDENTIFICATION : G - 4014

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)-TRAVERSE - VOLTS/VOLTS } $\frac{R}{R_2}$ = 0.5

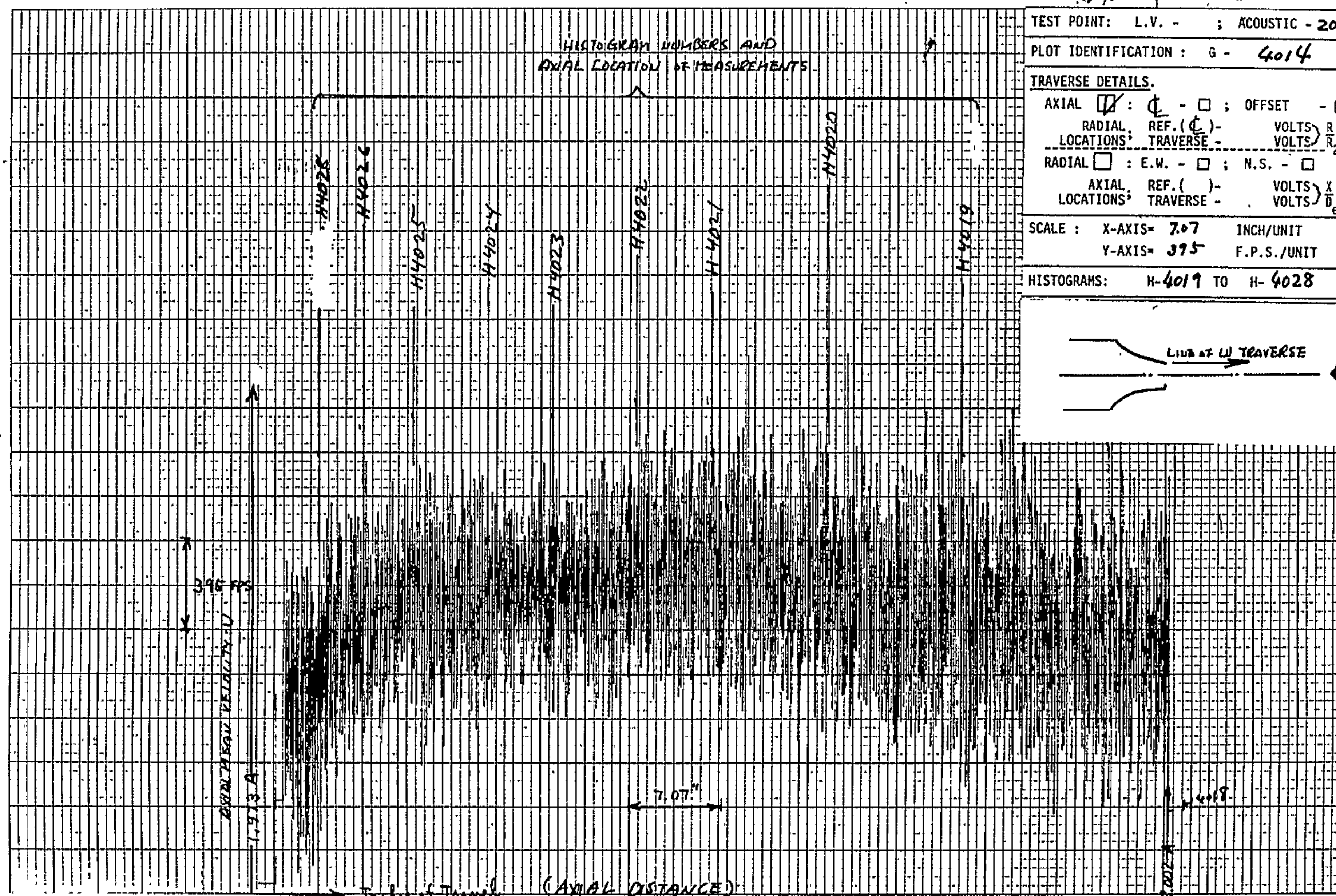
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )-TRAVERSE - VOLTS/VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 375 F.P.S./UNIT

HISTOGRAMS: H-4019 TO H-4028



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DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 207

PLOT IDENTIFICATION : G - 4015

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

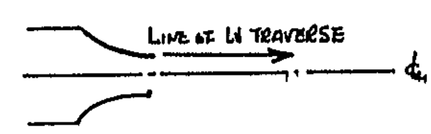
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = .95

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT

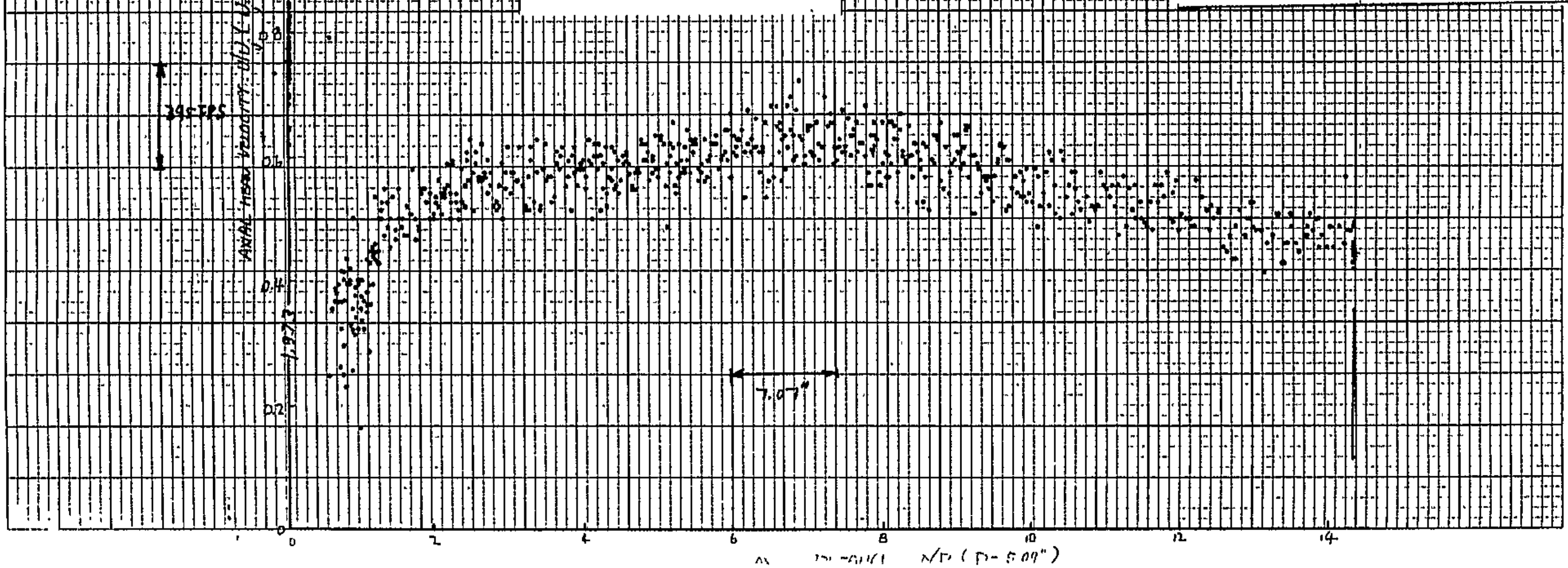
HISTOGRAMS: H- TO H-



P_r = 3.018 , $V_{a/c}$ = 0 f/s

T_T = 1707 °R, D_{eq} = 5.09 in.

V_j = 2372 f/s, h = - in.



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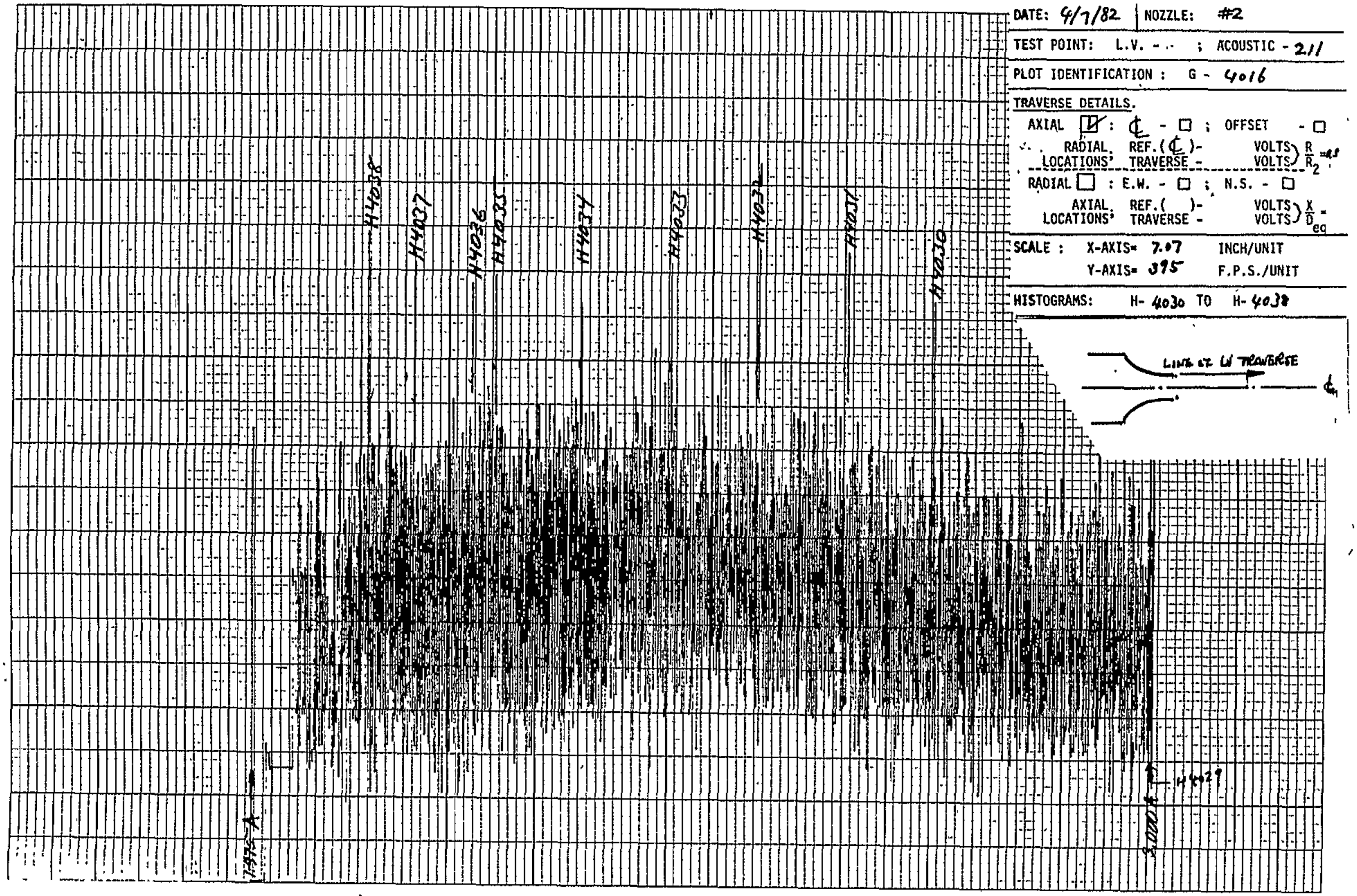

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852

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853

RECORDING CHARTS
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BUFFALO NEW YORK

DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 211

PLOT IDENTIFICATION : G - 4017

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ = 0.5

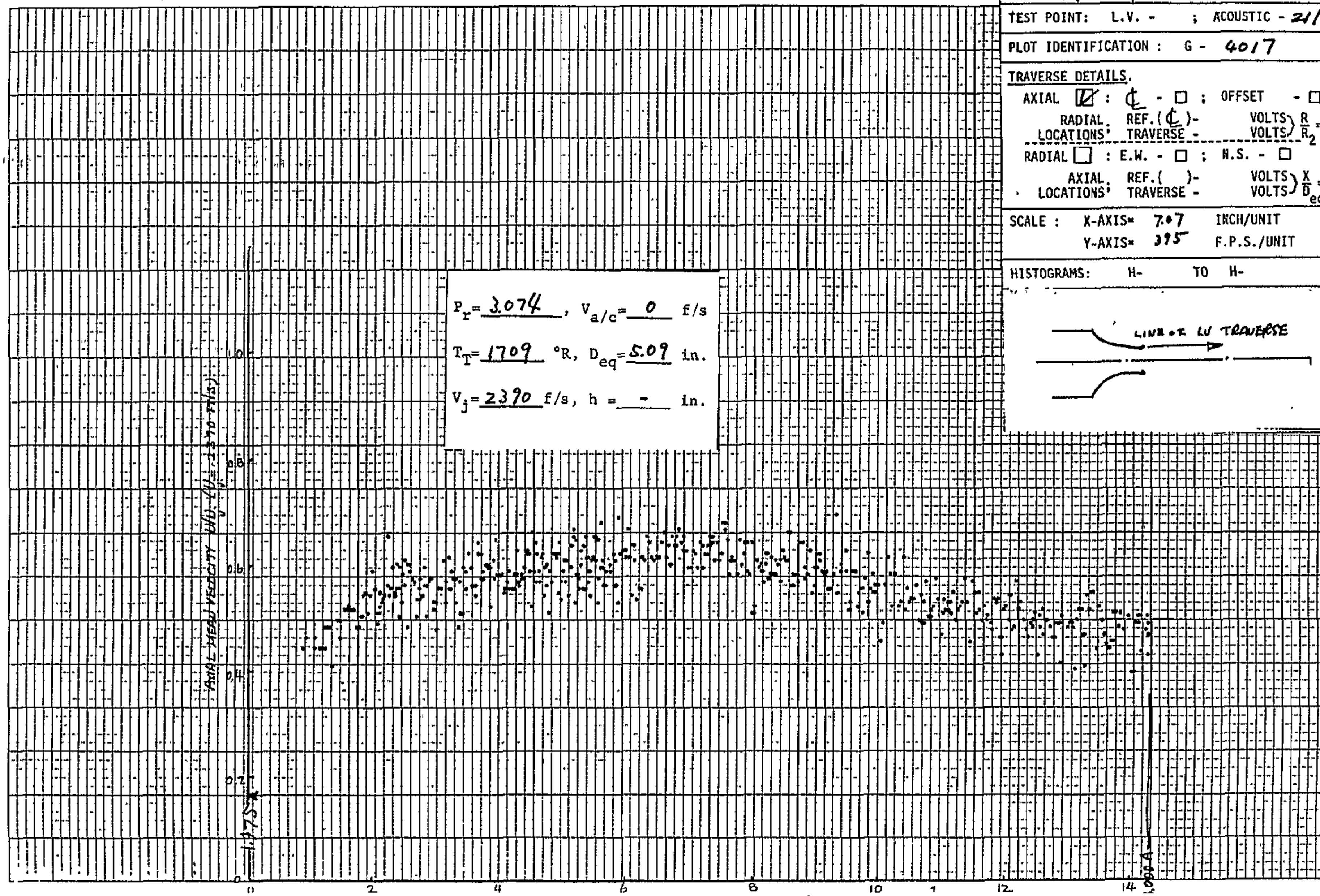
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

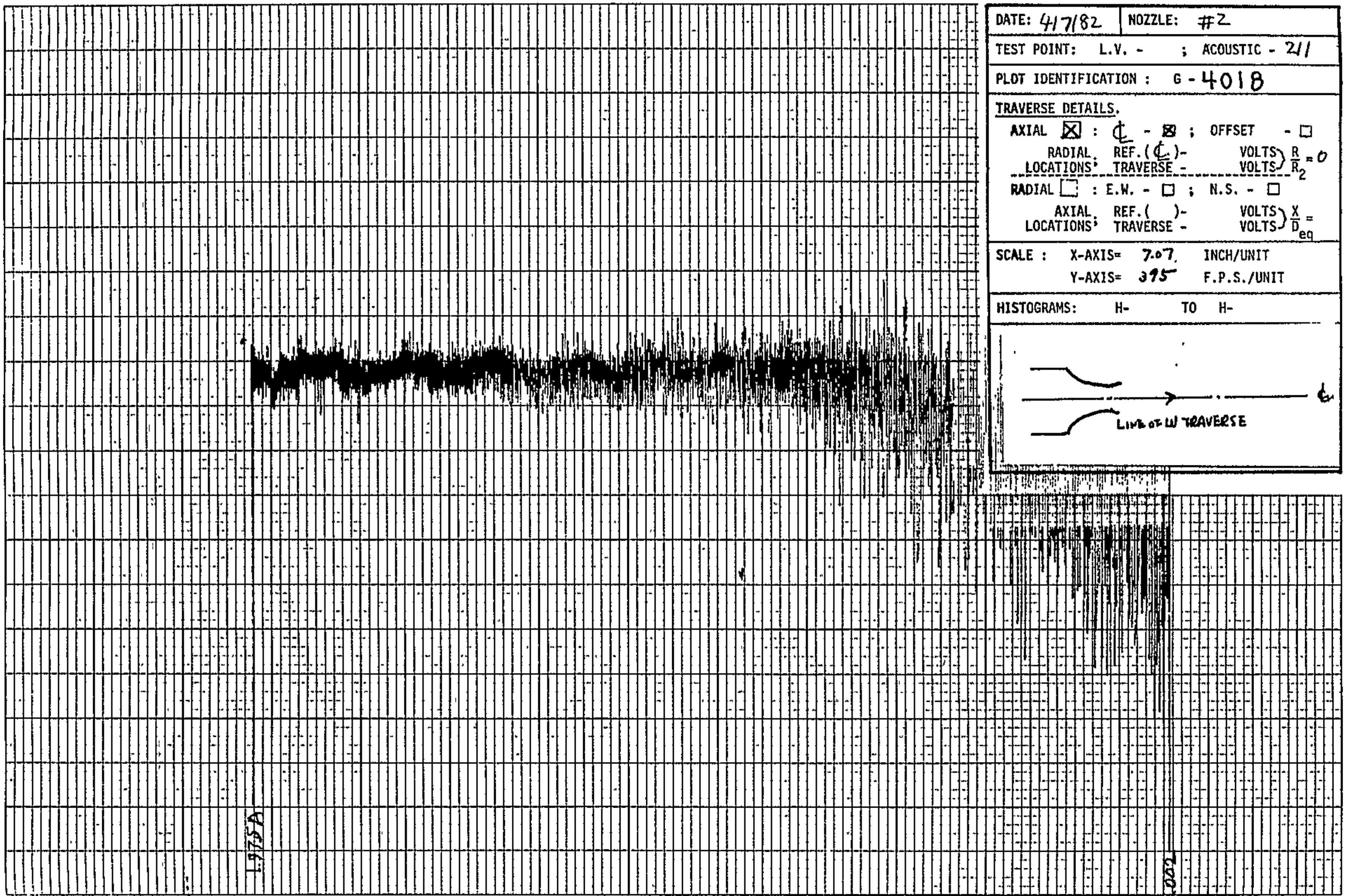
AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE ℄





DATE: 4/7/82	NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 211

PLOT IDENTIFICATION : G - 4018

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄

No. XY 1101

654

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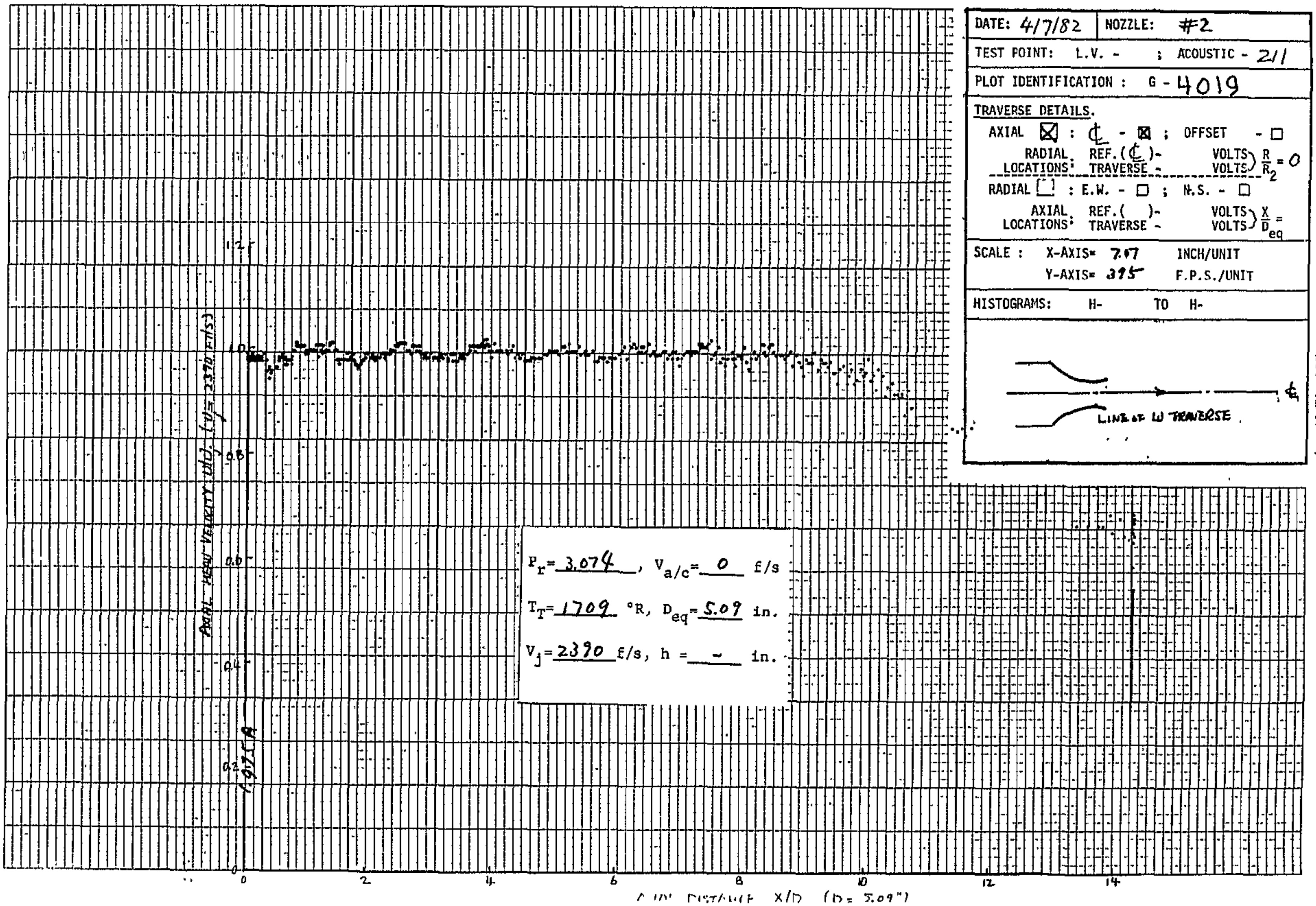

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855

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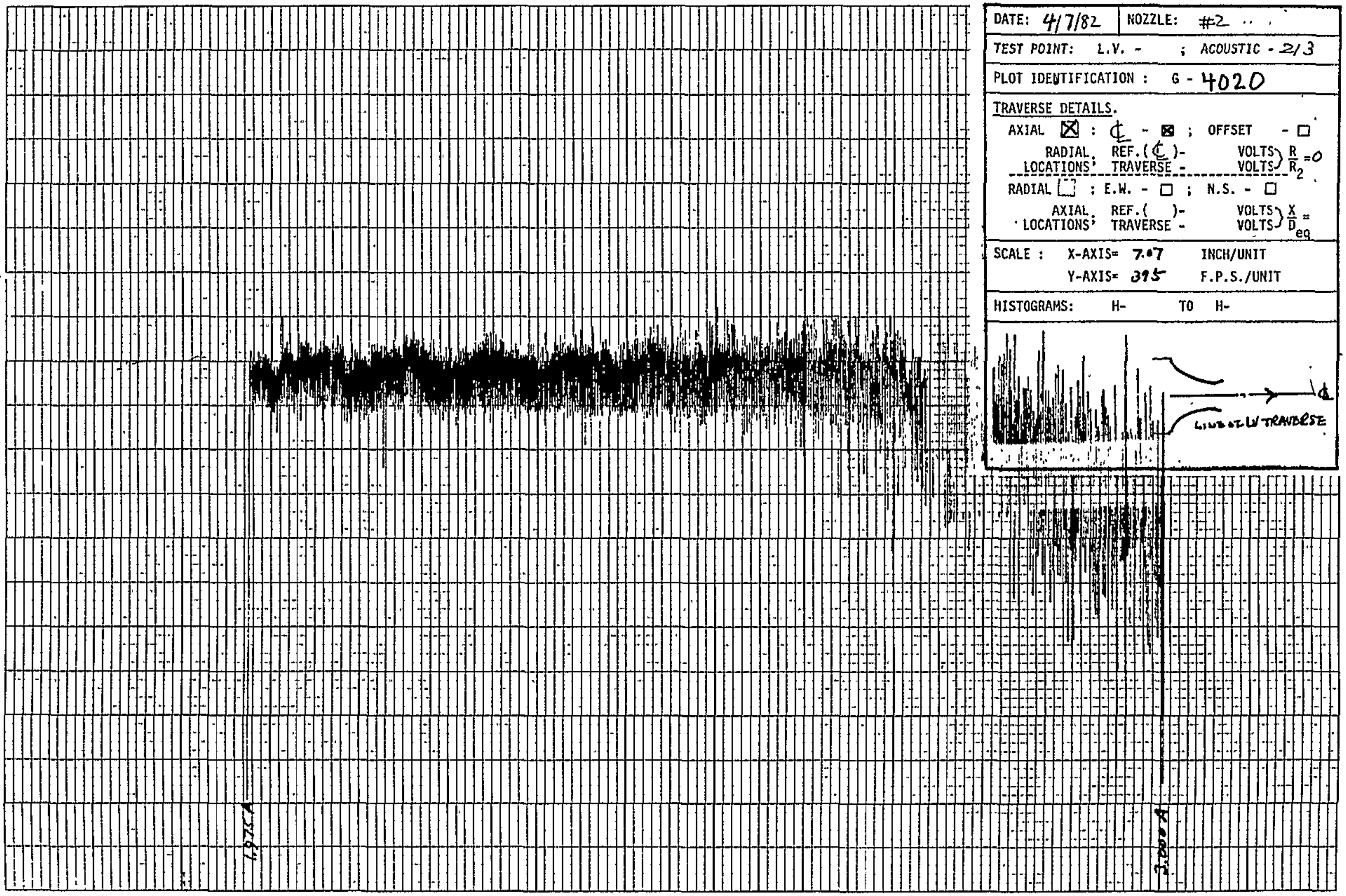
857



DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 2/3

PLOT IDENTIFICATION : G - 4020

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

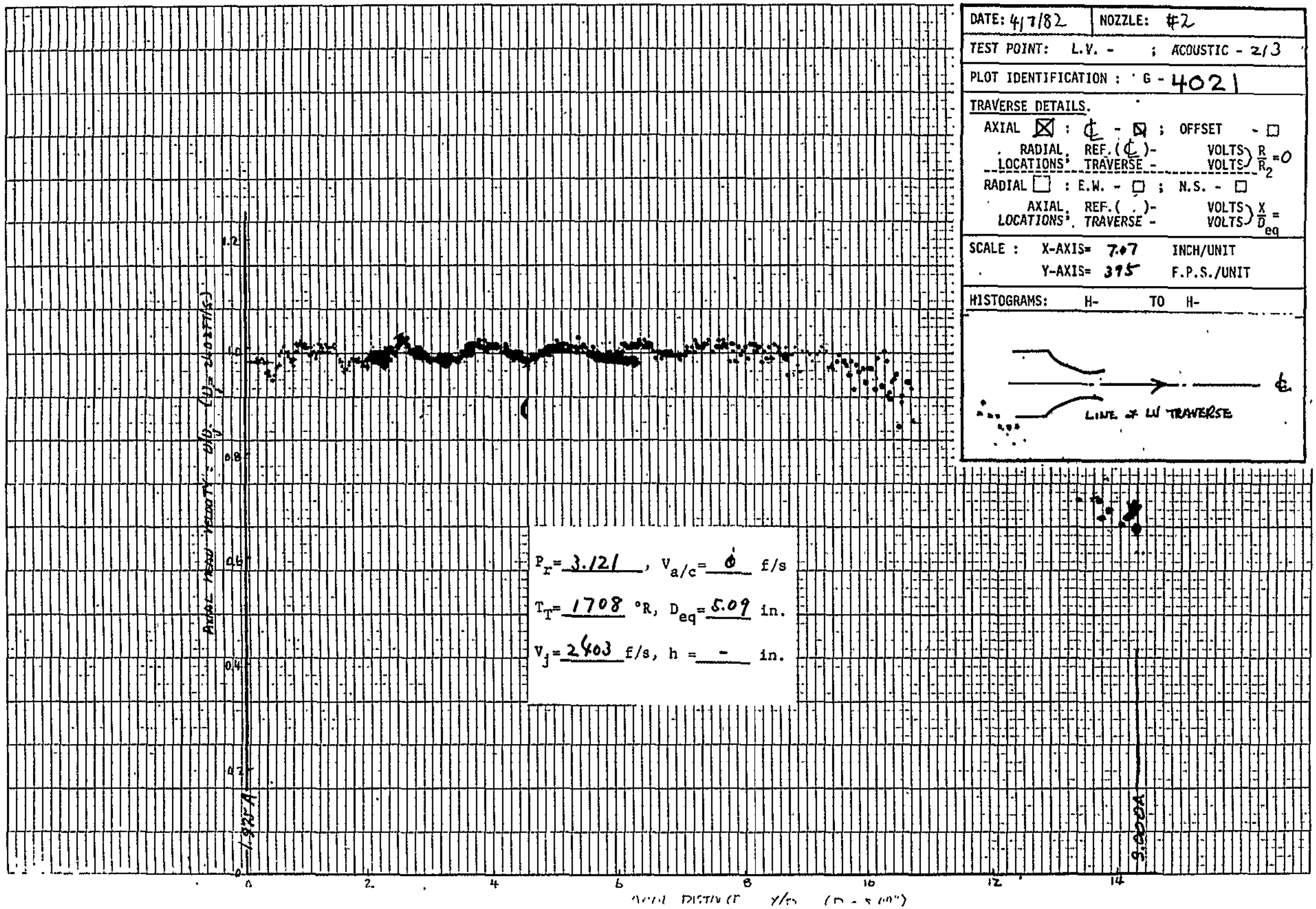
RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS/VOLTS} $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

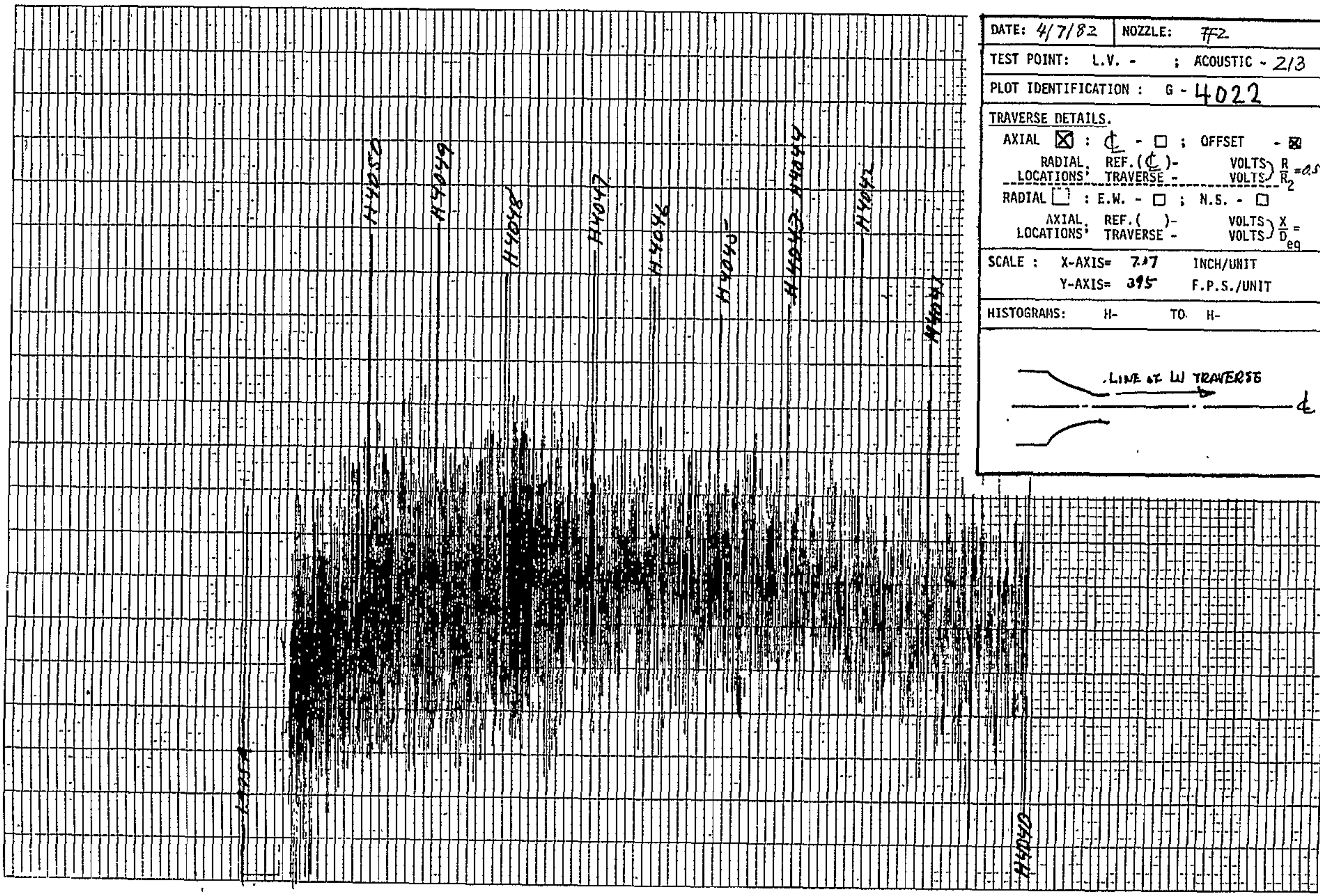
AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS/VOLTS} $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-


DATE: 4/7/82
NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 2/3
PLOT IDENTIFICATION : G - 4021
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 = 0
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 375 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.121 , Va/c= 0 f/s
TT= 1708 °R, Deq= 5.09 in.
Vj= 2403 f/s, h = - in.
1.2
1.0
0.8
0.6
0.4
0.2
0
2
4
6
8
10
12
14

858



DATE: 4/7/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 2/3	
PLOT IDENTIFICATION : G - 4022	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0.5

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.17 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE of ℄ TRAVERSE

℄

No XY 1101

859

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DATE: 4/7/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 213	
PLOT IDENTIFICATION : G - 4023	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 = 0.5

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

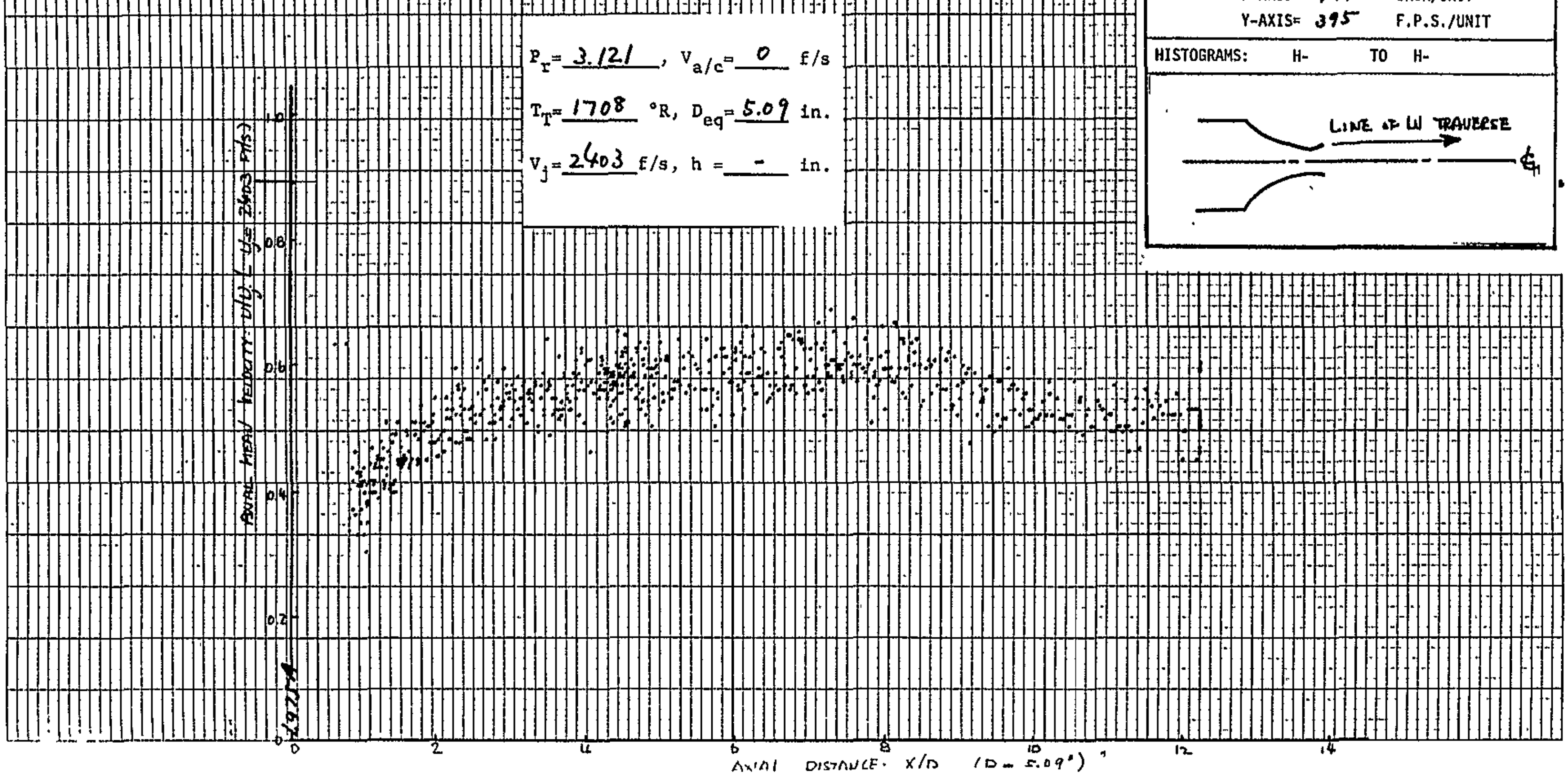
SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

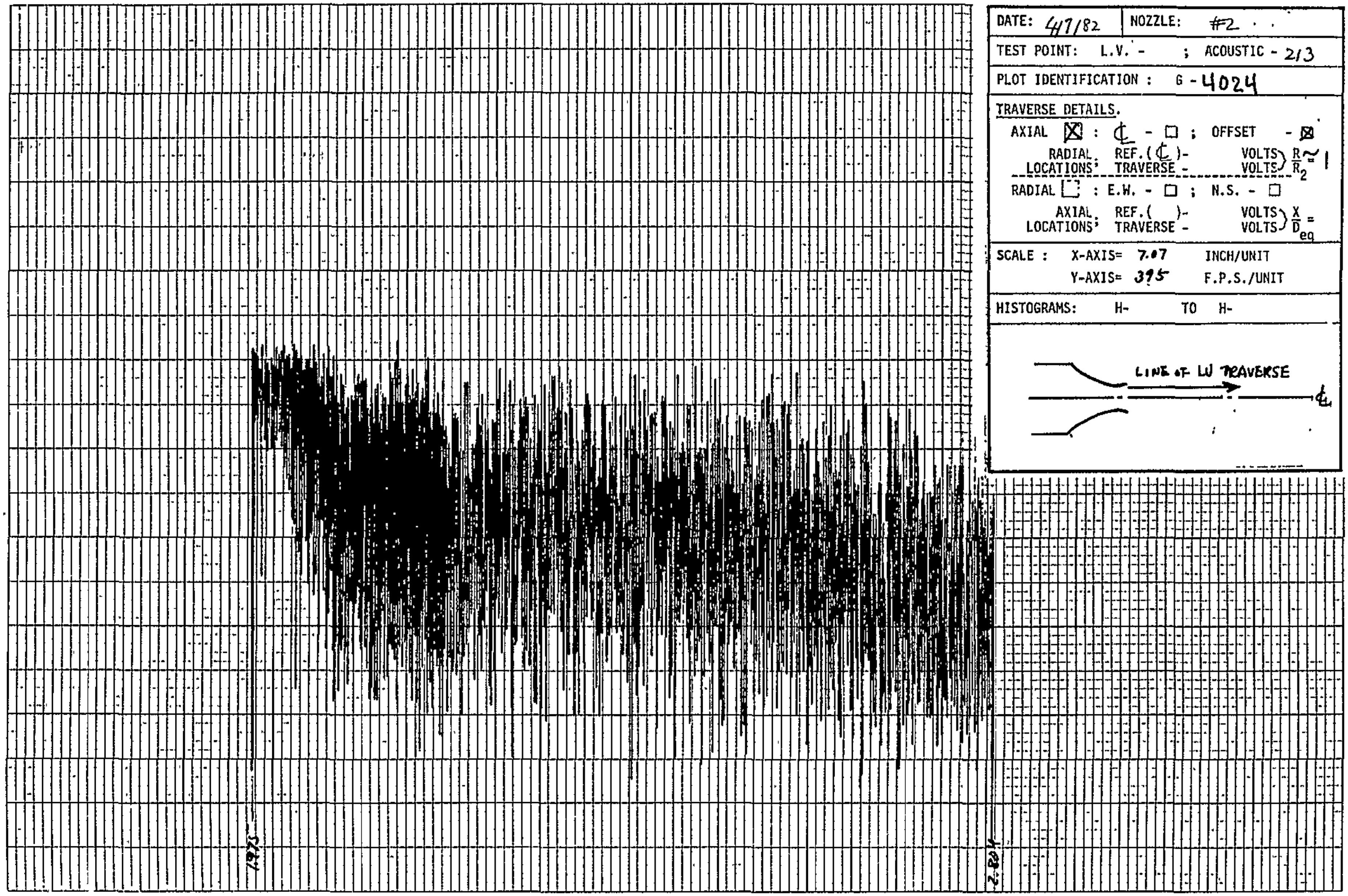
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



098



DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 2/3

PLOT IDENTIFICATION : G - 4024

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2} \approx 1$

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE ℄

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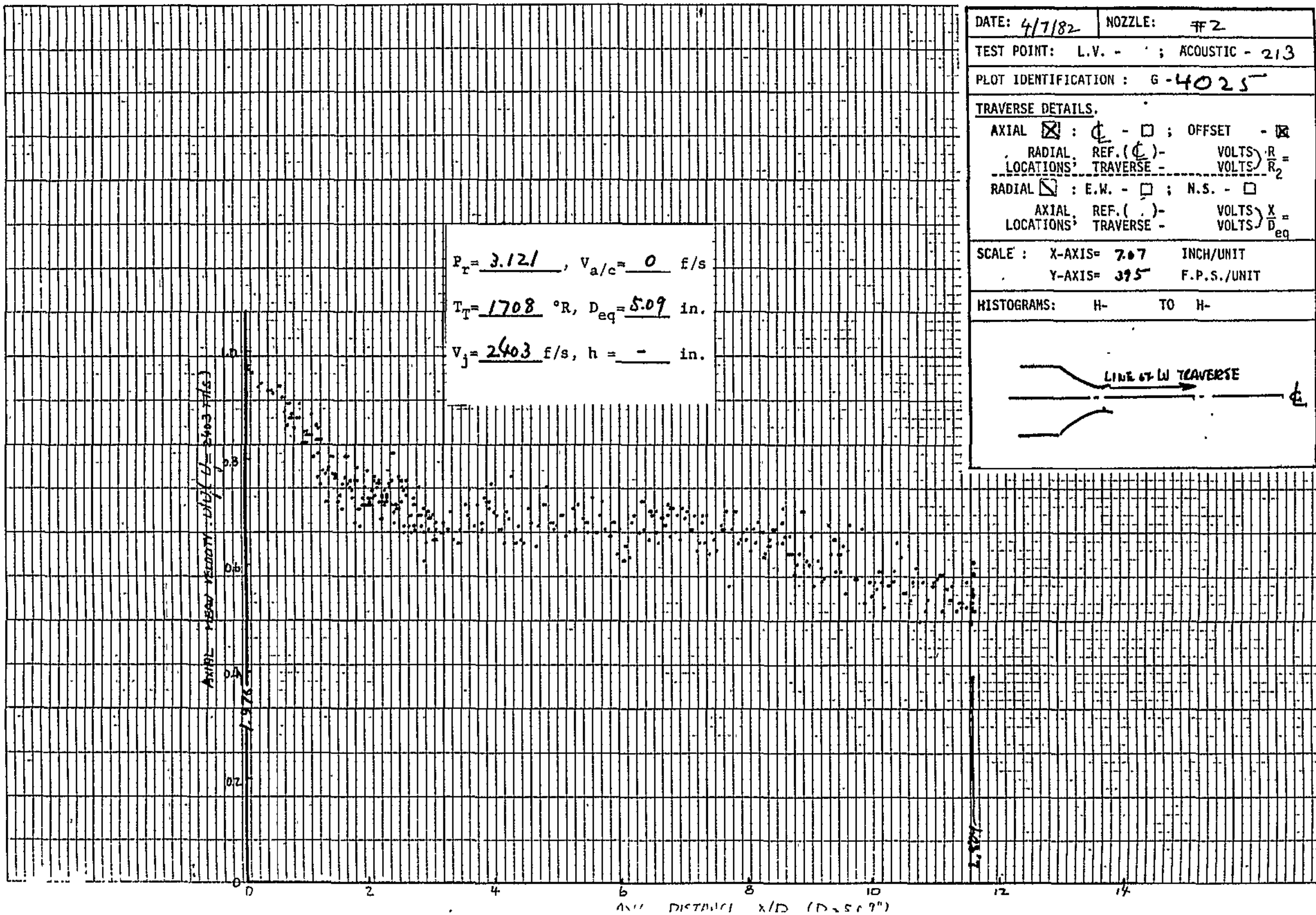

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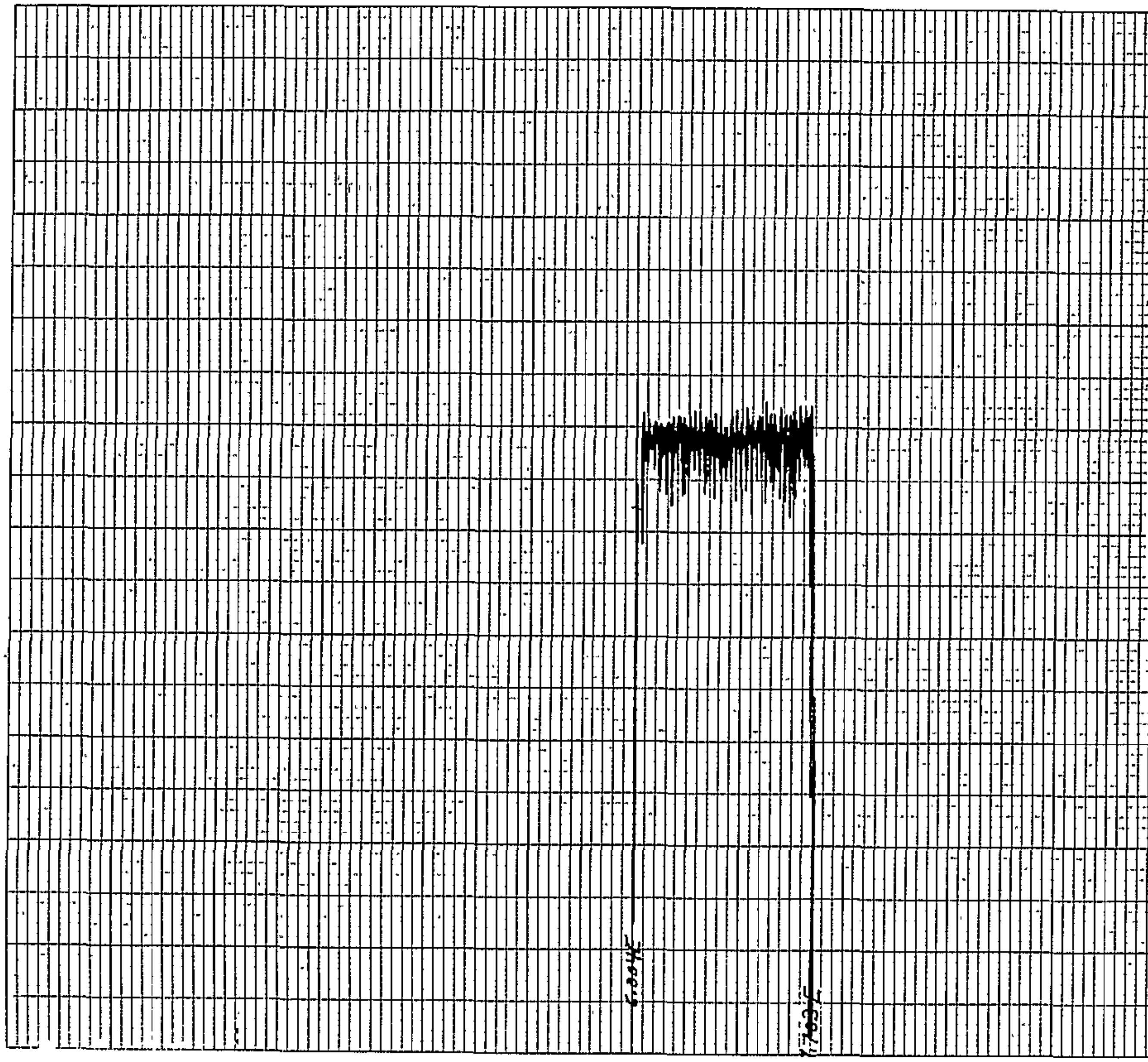
298



DATE: 4/7/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 2/3

PLOT IDENTIFICATION : G - 4026

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

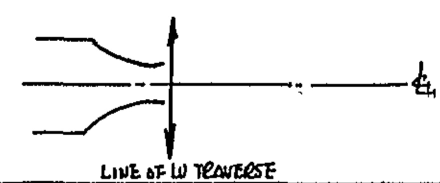
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}} \simeq 0$

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 4/7/82 NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 2/3

PLOT IDENTIFICATION : G - 2027

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ = 0

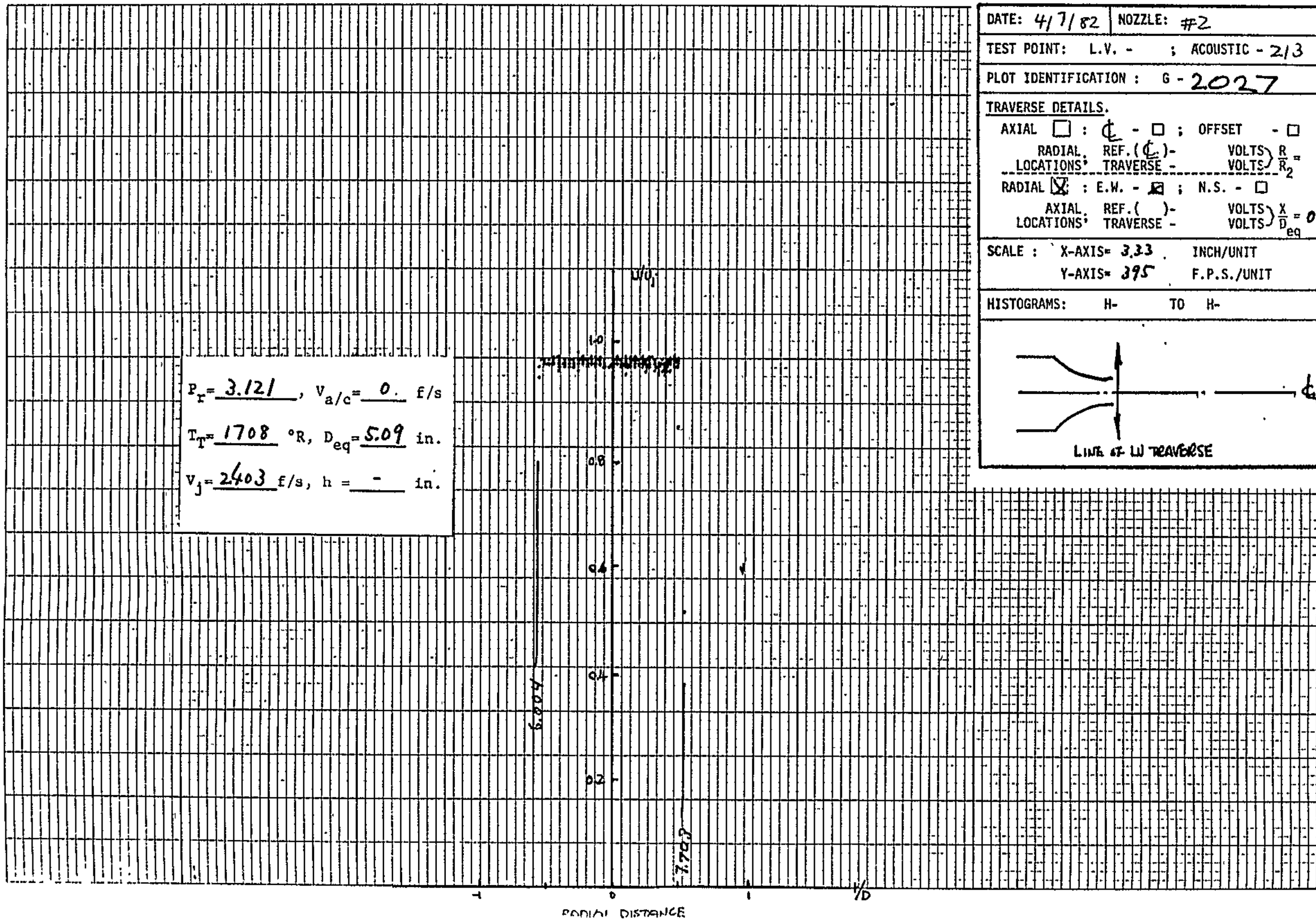
SCALE : X-AXIS= 3.33 INCH/UNIT; Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

P_r = 3.121, $V_{a/c}$ = 0. f/s

T_T = 1708 °R, D_{eq} = 5.09 in.

V_j = 2403 f/s, h = - in.



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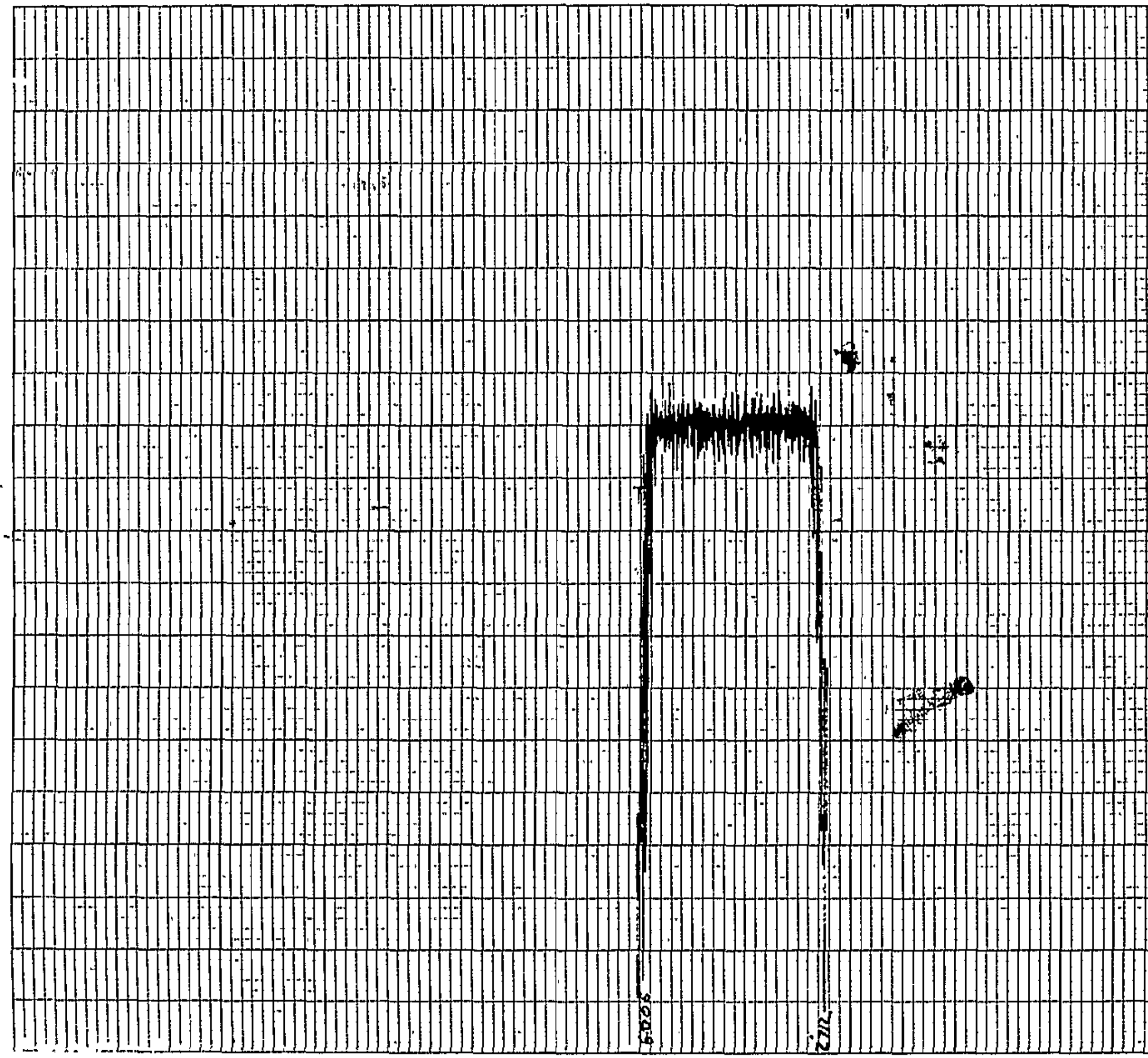
864



DATE: 4/7/82 NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 213

PLOT IDENTIFICATION : G - 4028

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

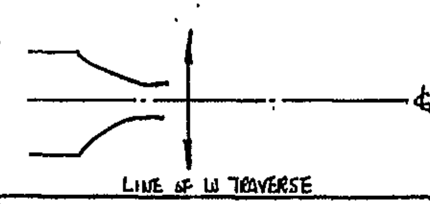
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 1.1

SCALE : X-AXIS= 3.33 INCH/UNIT

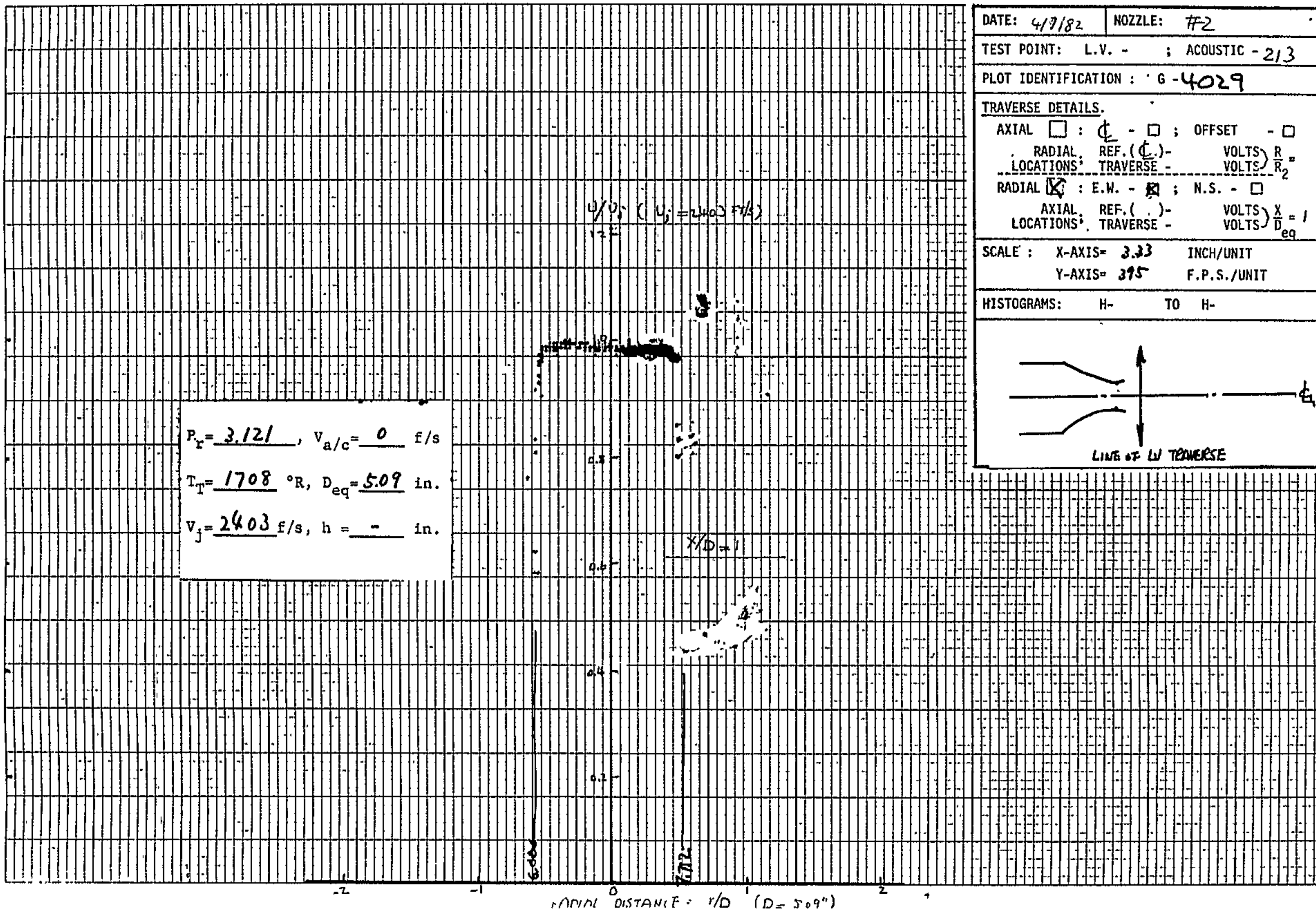
Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



865

998



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DATE: 4/7/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 213	
PLOT IDENTIFICATION : G - 4030	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

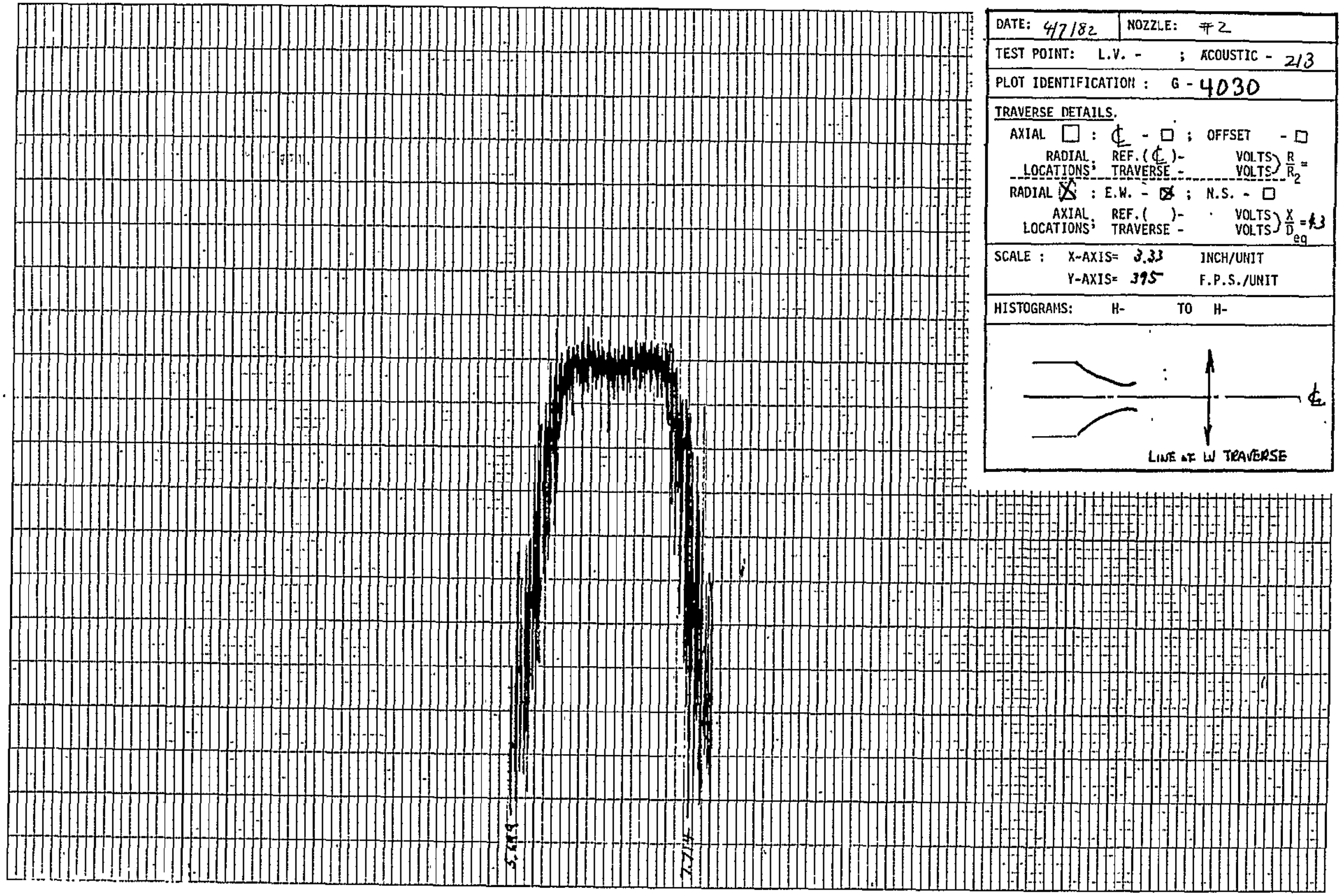
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ = 4.3

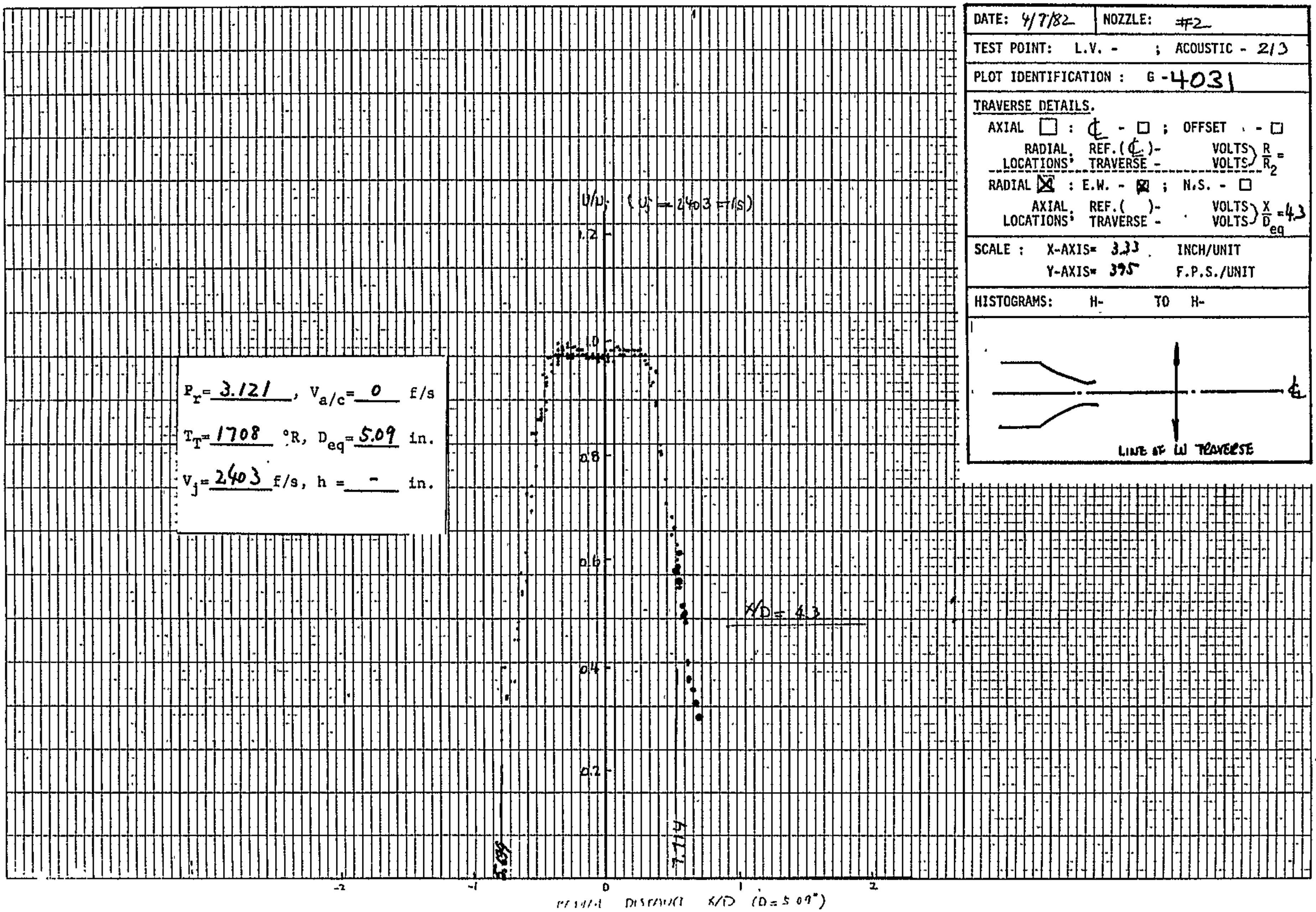
SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



NO. XY 1101



NO. XY 1101

898

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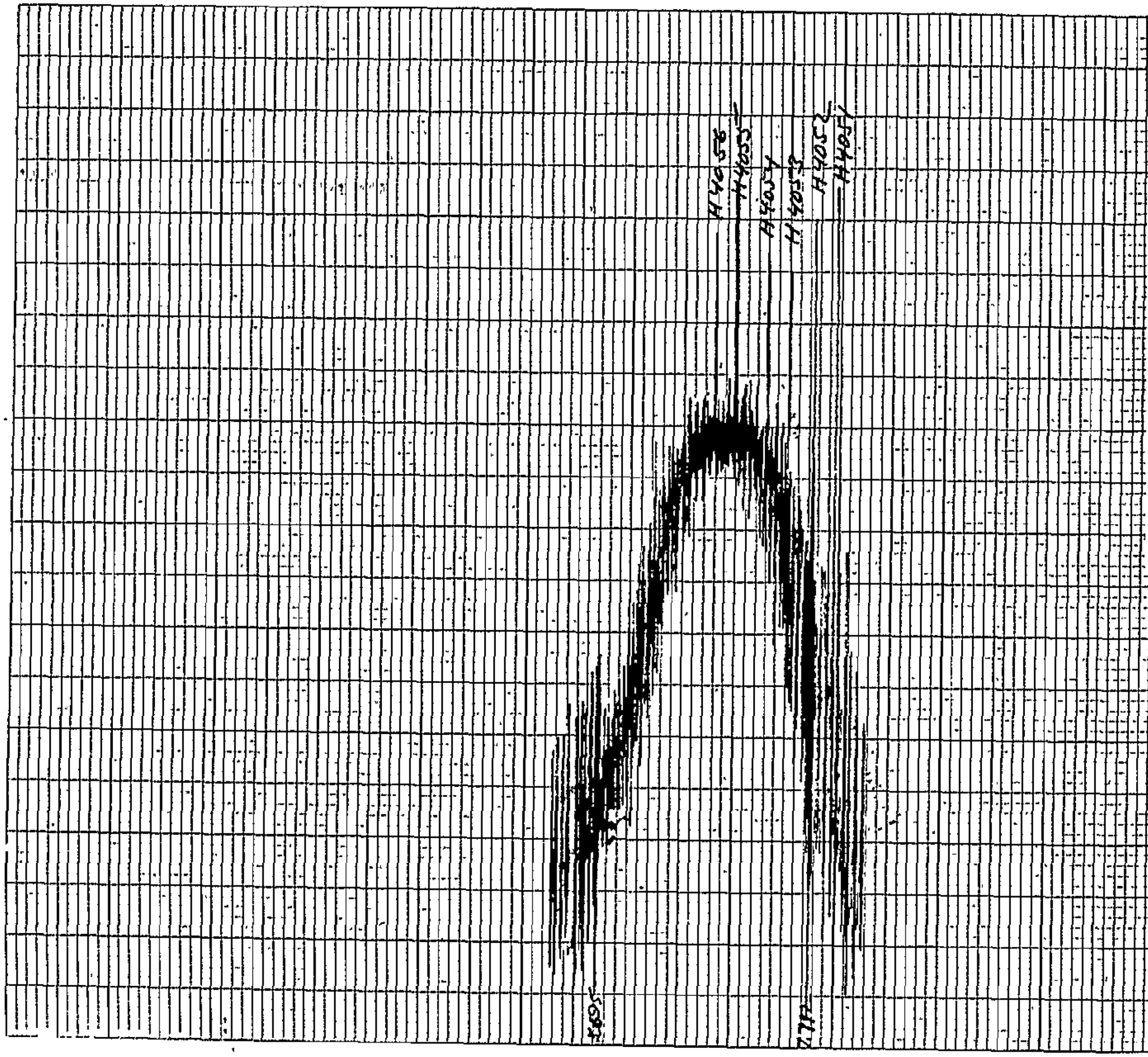


DATE: 4/7/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 213	
PLOT IDENTIFICATION : G - 4032	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

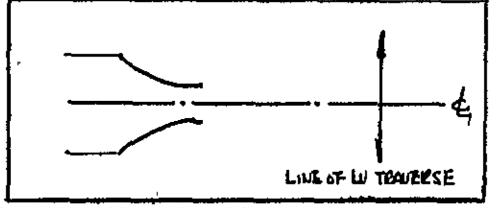
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

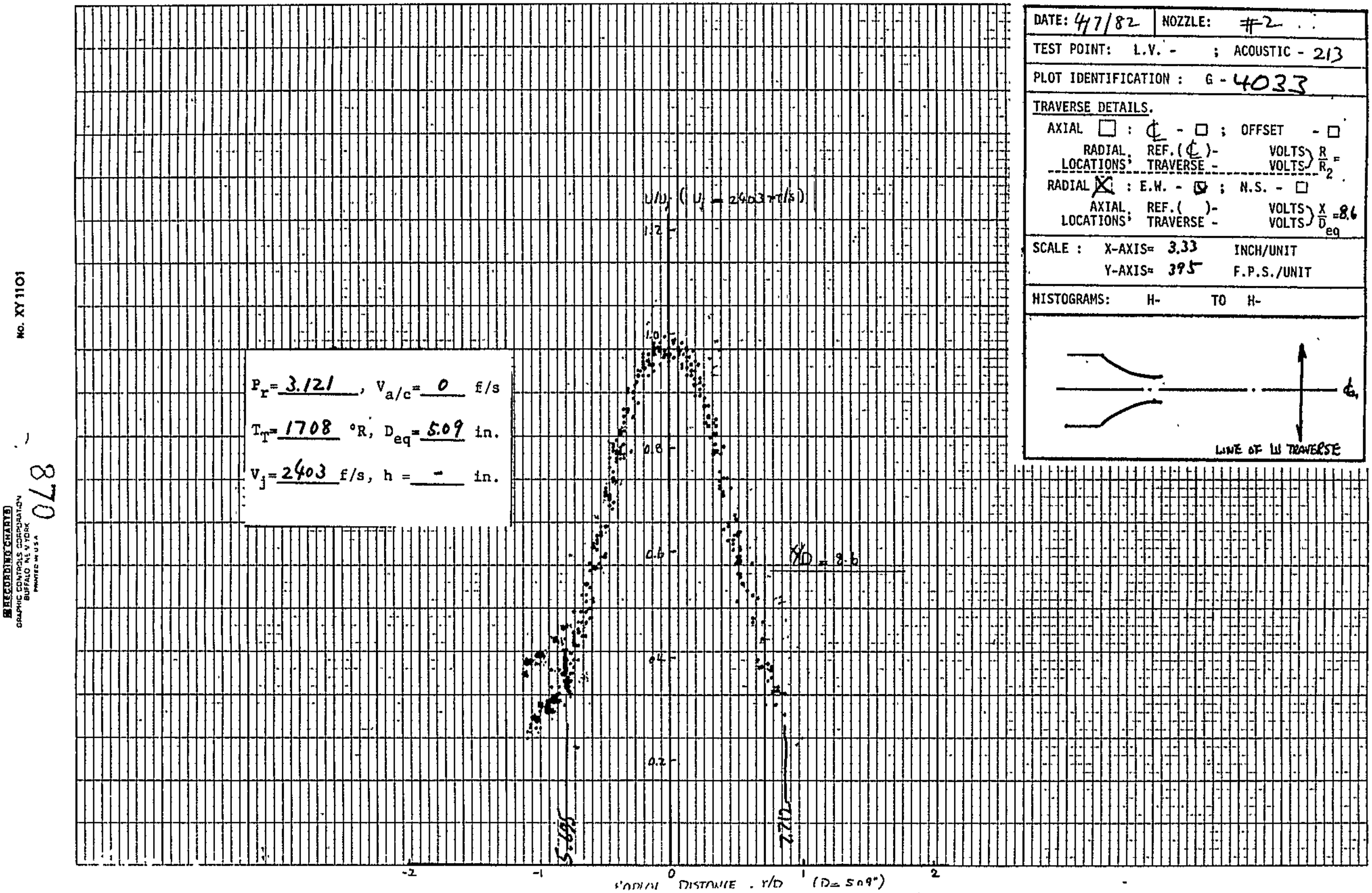
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} = 86

SCALE : X-AXIS= 2.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H-4051 TO H-4056



698


DATE: 4/7/82
NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 213
PLOT IDENTIFICATION : G - 4033
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =8.6
SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
Pr= 3.121 , Va/c= 0 f/s
TT= 1708 °R, Deq= 5.09 in.
Vj= 2403 f/s, h = - in.
U/Uj (Uj = 2403 ft/s)
1.2
1.0
0.8
0.6
0.4
0.2
X/D = 8.6
-2
-1
0
1
2
RADIAL DISTANCE , r/D (D = 5.09")
NO. XY 1101
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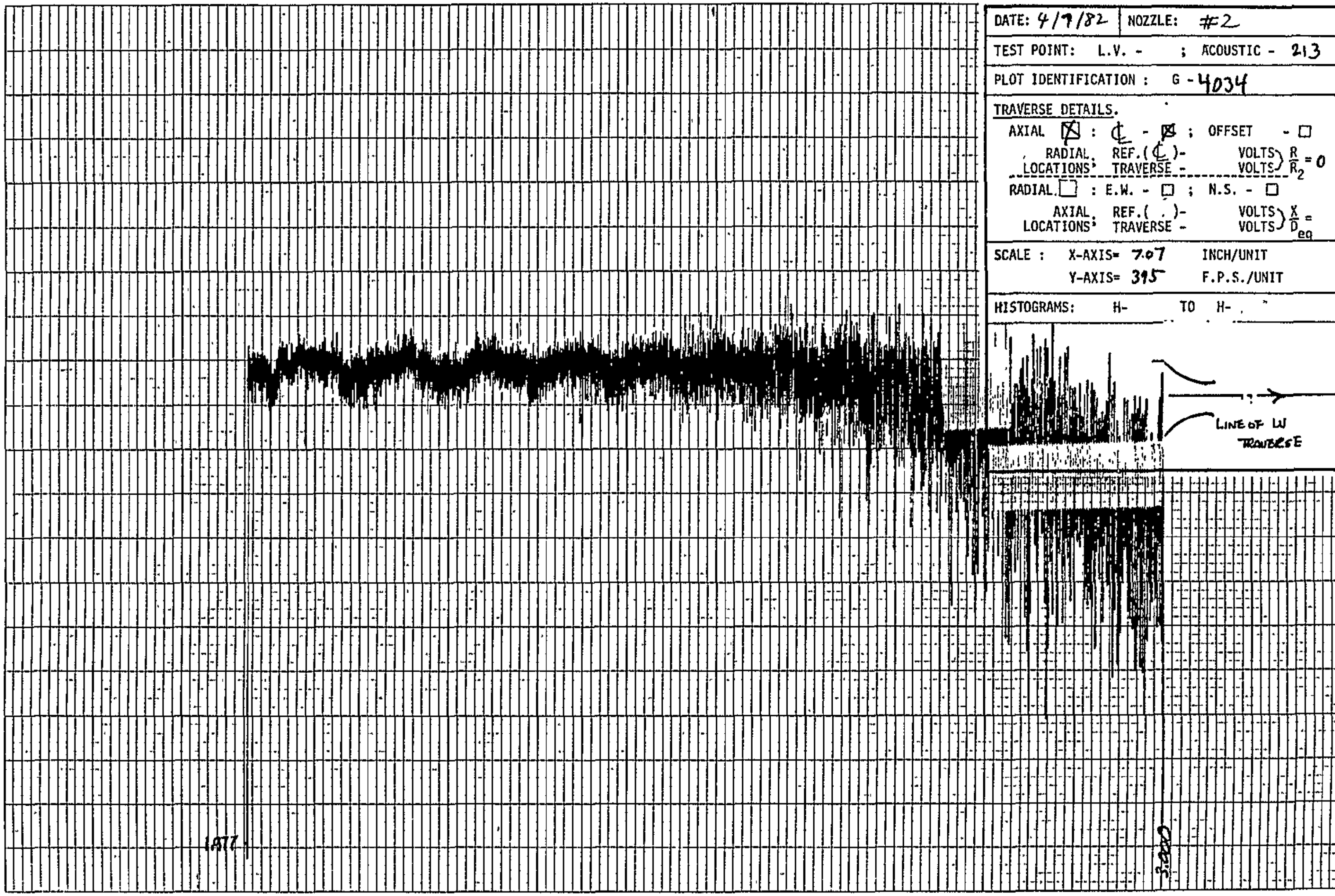
GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK



DATE: 4/9/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 213

PLOT IDENTIFICATION : G - 4034

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2} = 0$

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}} =$

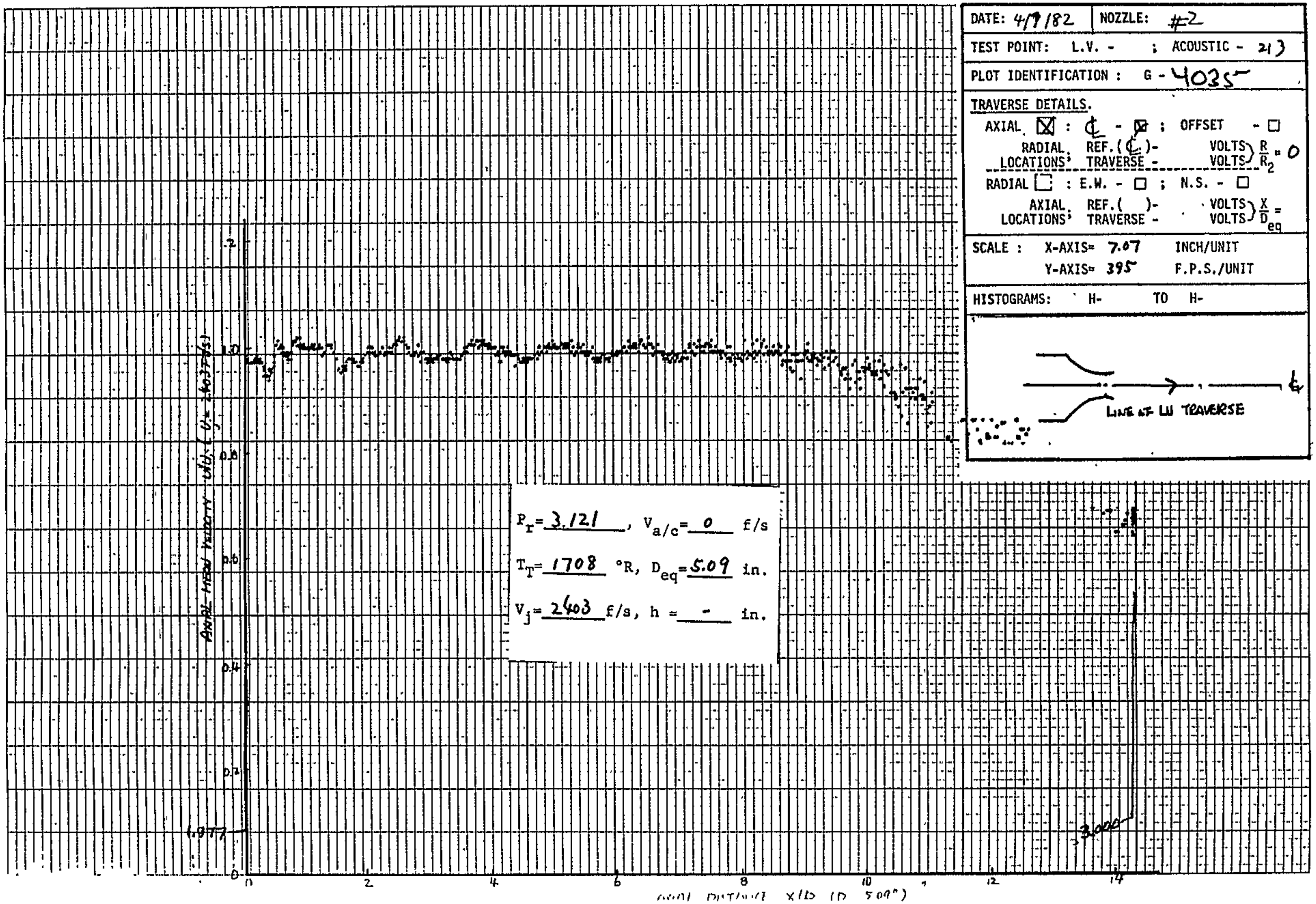
SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

No. XY 1101

871



DATE: 4/9/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 213

PLOT IDENTIFICATION : G - 4035

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS) R/R_2 = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS) X/D_{eq} =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

P_r = 3.121, $V_{a/c}$ = 0 f/s

T_T = 1708 °R, D_{eq} = 5.09 in.

V_j = 2403 f/s, h = - in.

NO. XY 1101

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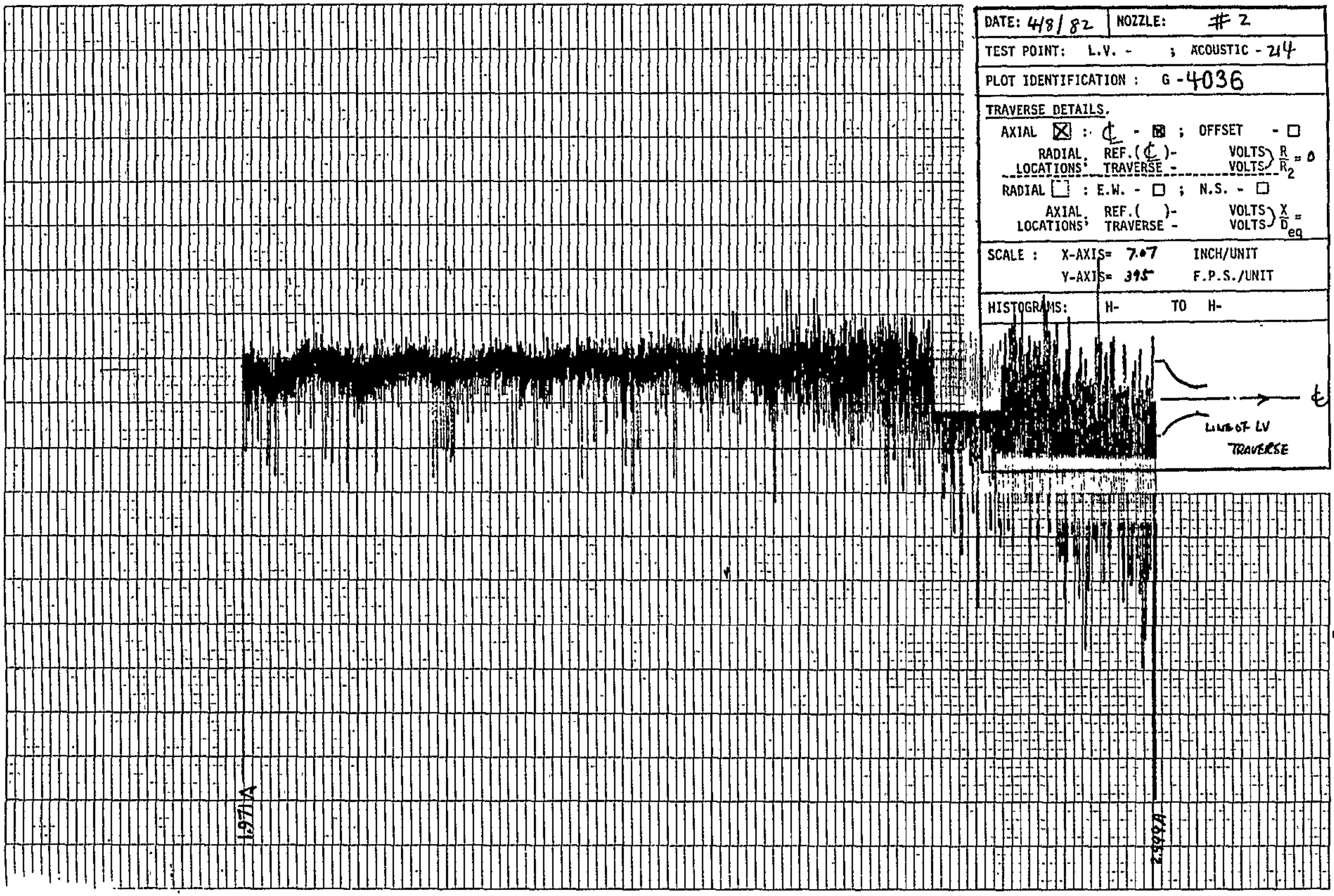
No. XY 1101

874



DATE: 4/8/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 214	
PLOT IDENTIFICATION : G-4036	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

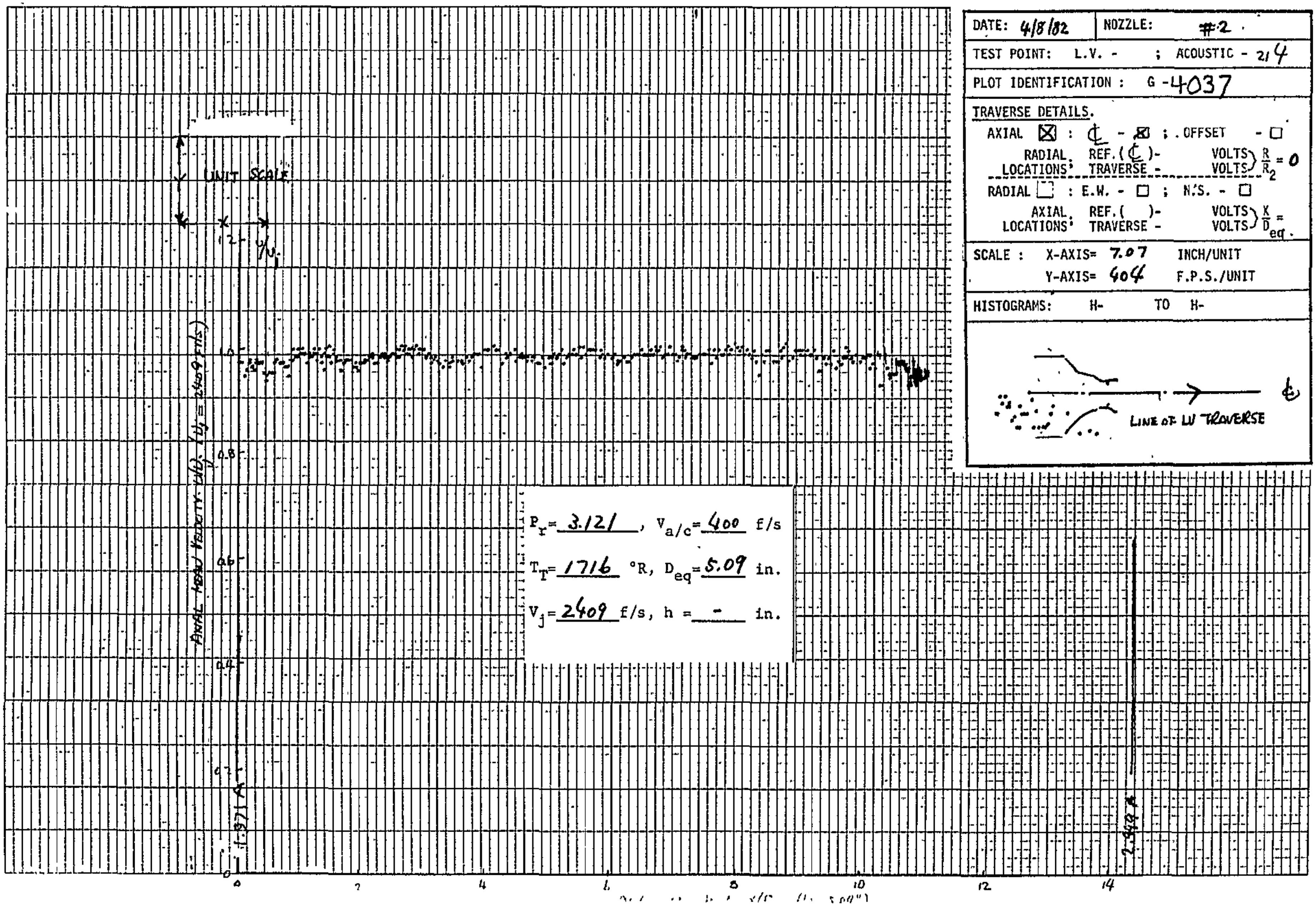
RADIAL LOCATIONS: REF.(℄)-TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )-TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

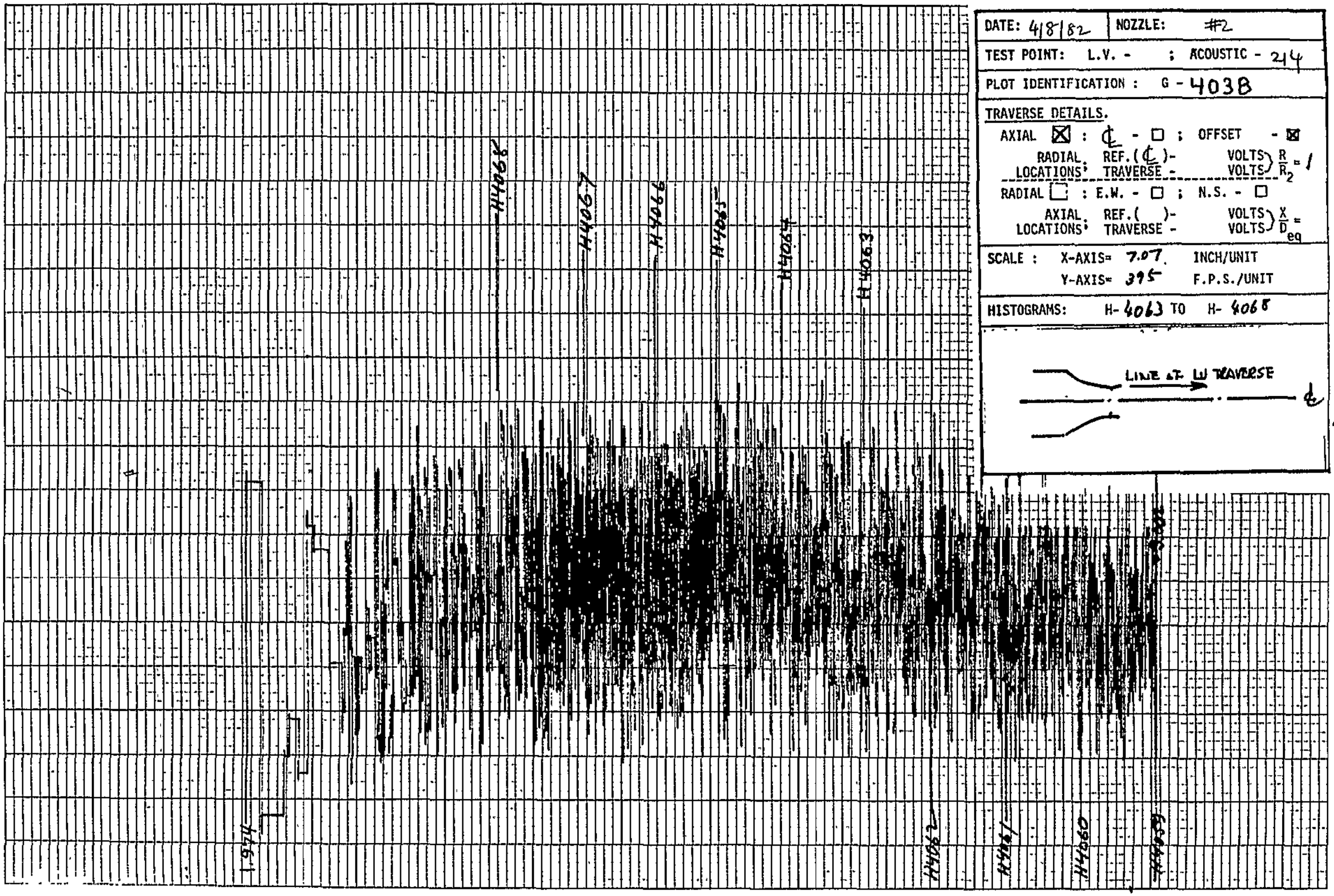
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 4/8/82
NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 214
PLOT IDENTIFICATION : G-4037
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS VOLTS $R/R_2 = 0$
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS VOLTS X/D_{eq} =
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 404 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
UNIT SCALE
P_r = 3.121 , $V_{a/c}$ = 400 f/s
T_T = 1716 °R, D_{eq} = 5.09 in.
V_j = 2409 f/s, h = - in.
AXIAL MEAN VELOCITY (U), (V_j = 2409 f/s)
V/V_j

578



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DATE: 4/8/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 214	
PLOT IDENTIFICATION : G - 4039	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

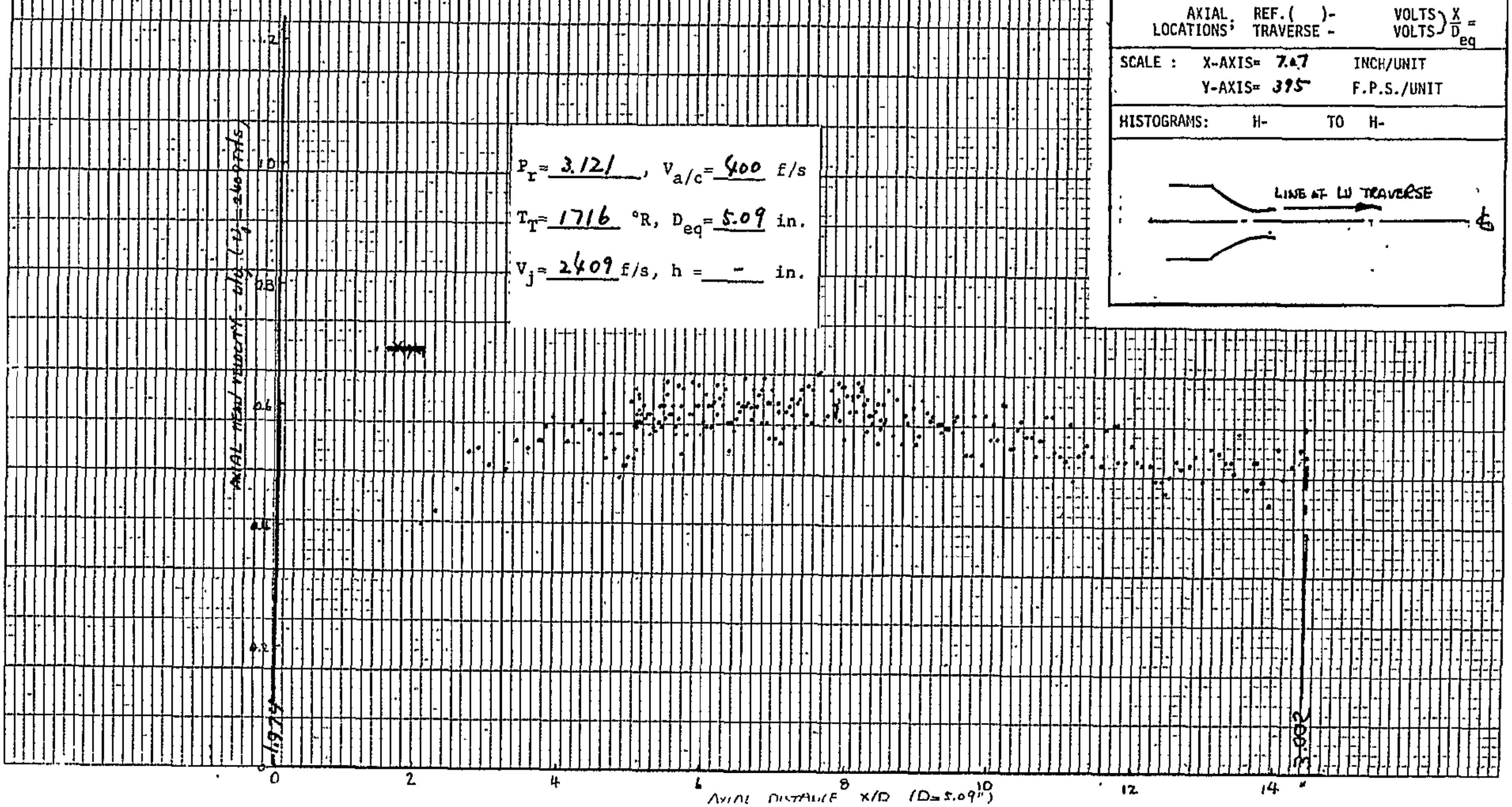
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.47 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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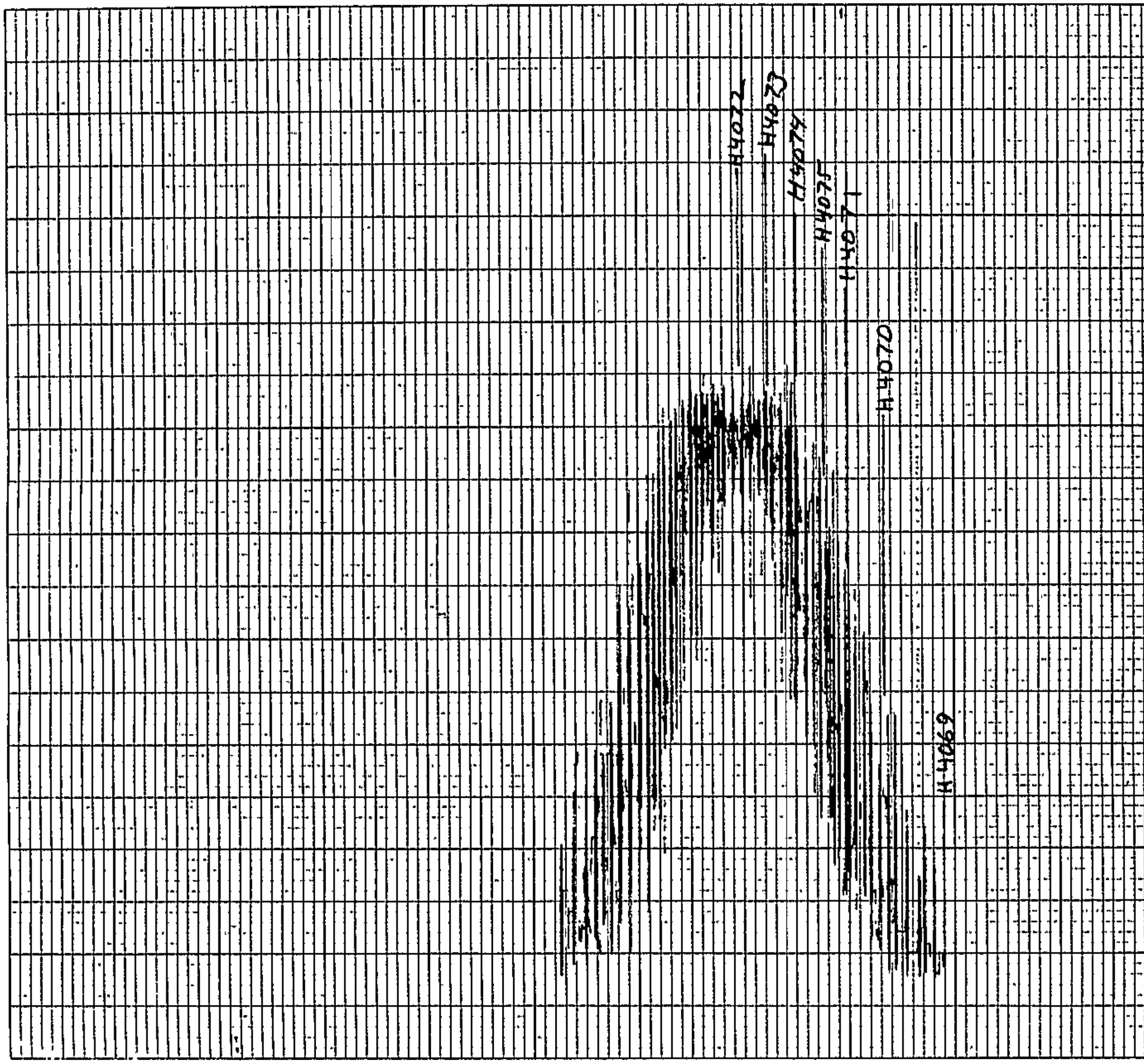
878

7 - 7



DATE: 4/8/82	NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 214

PLOT IDENTIFICATION : G - 4040

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

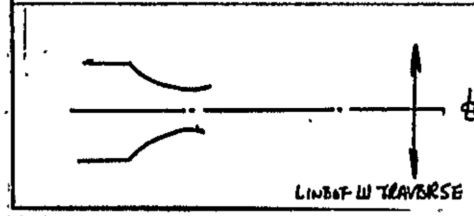
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8.7

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H-4069 TO H-4072



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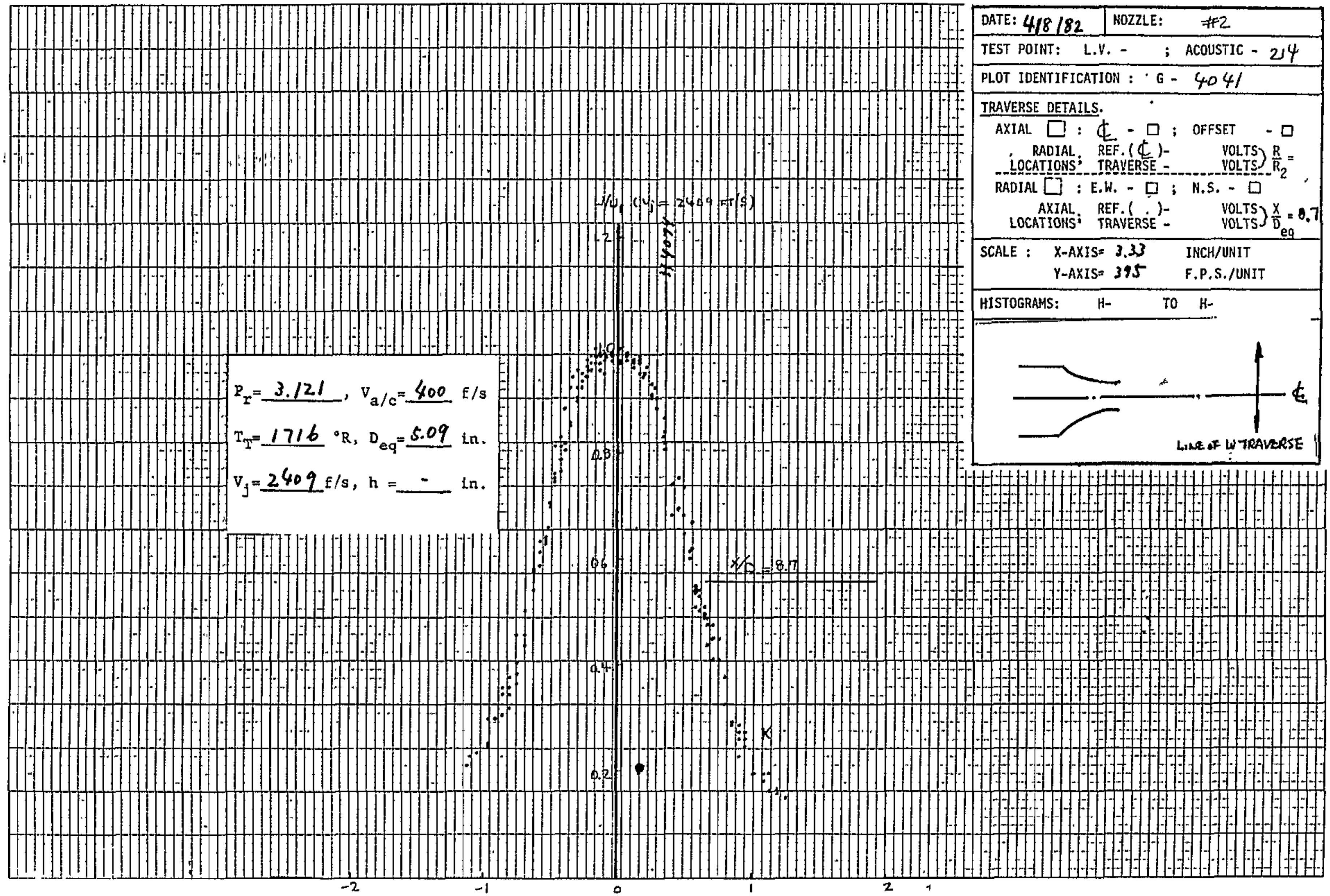

DATE: 4/8/82	NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 214

PLOT IDENTIFICATION : G - 4041

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. (.)- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8.7

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

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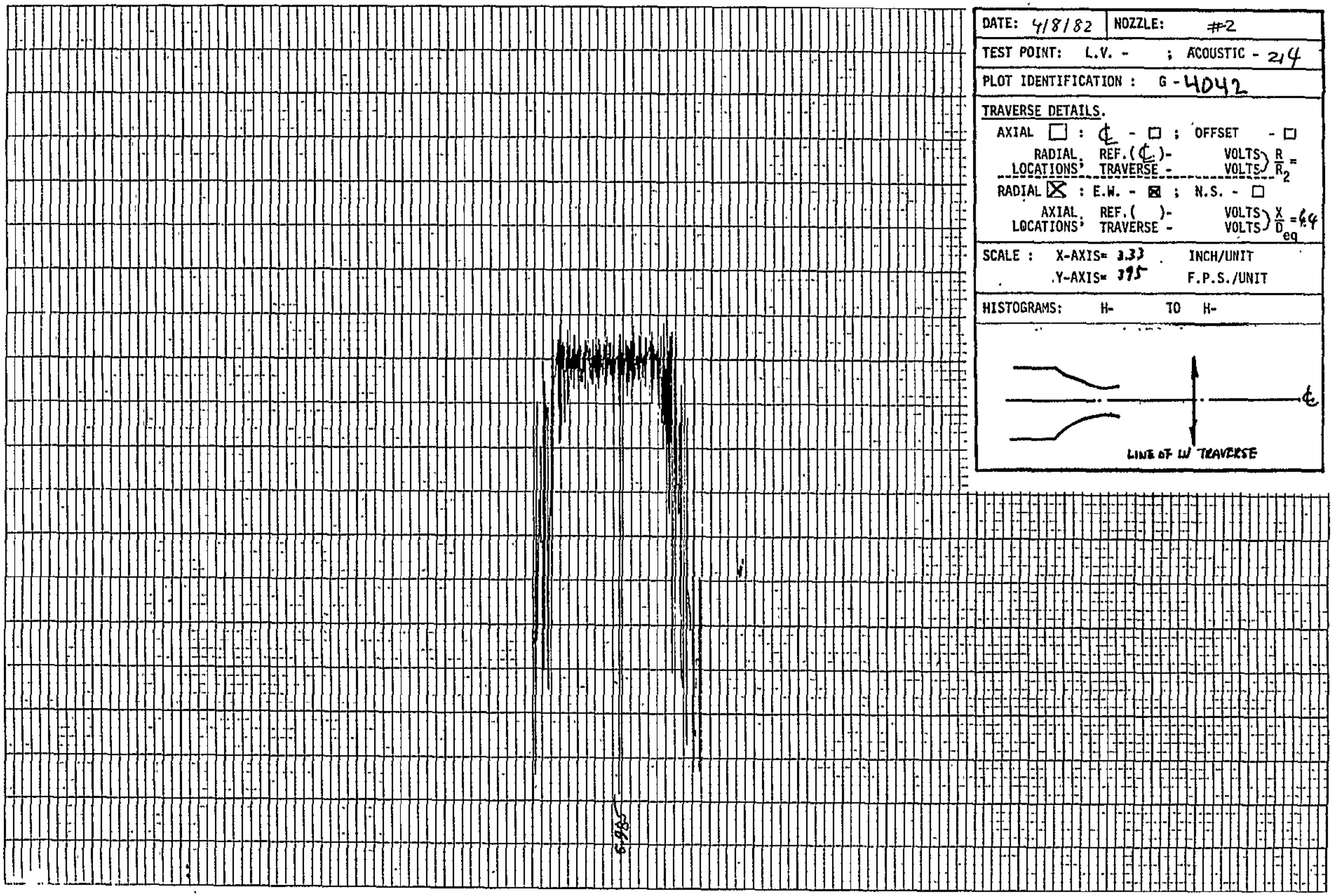

DATE: 4/8/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 214

PLOT IDENTIFICATION : G - 4042

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ = 6.4

SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-

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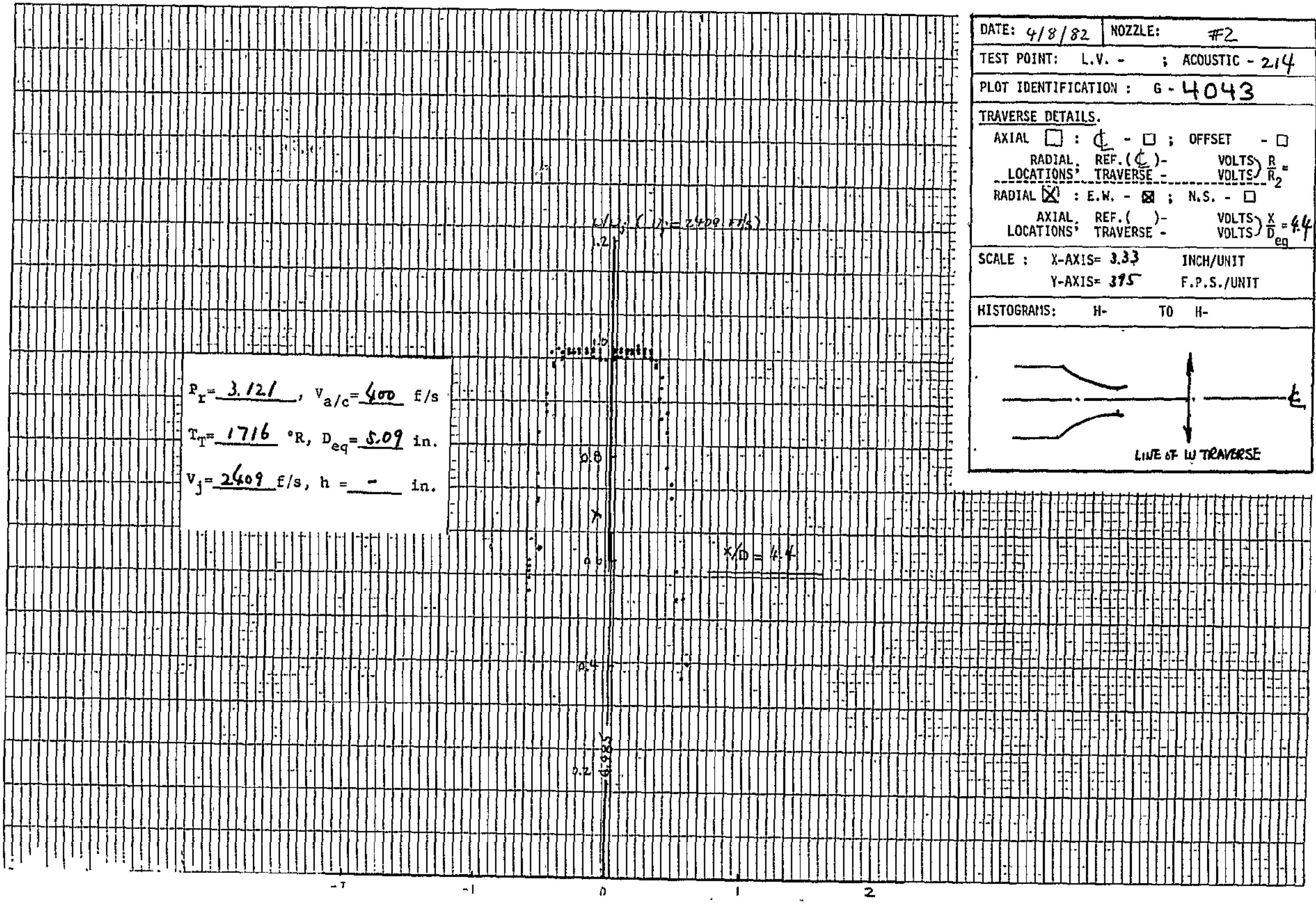

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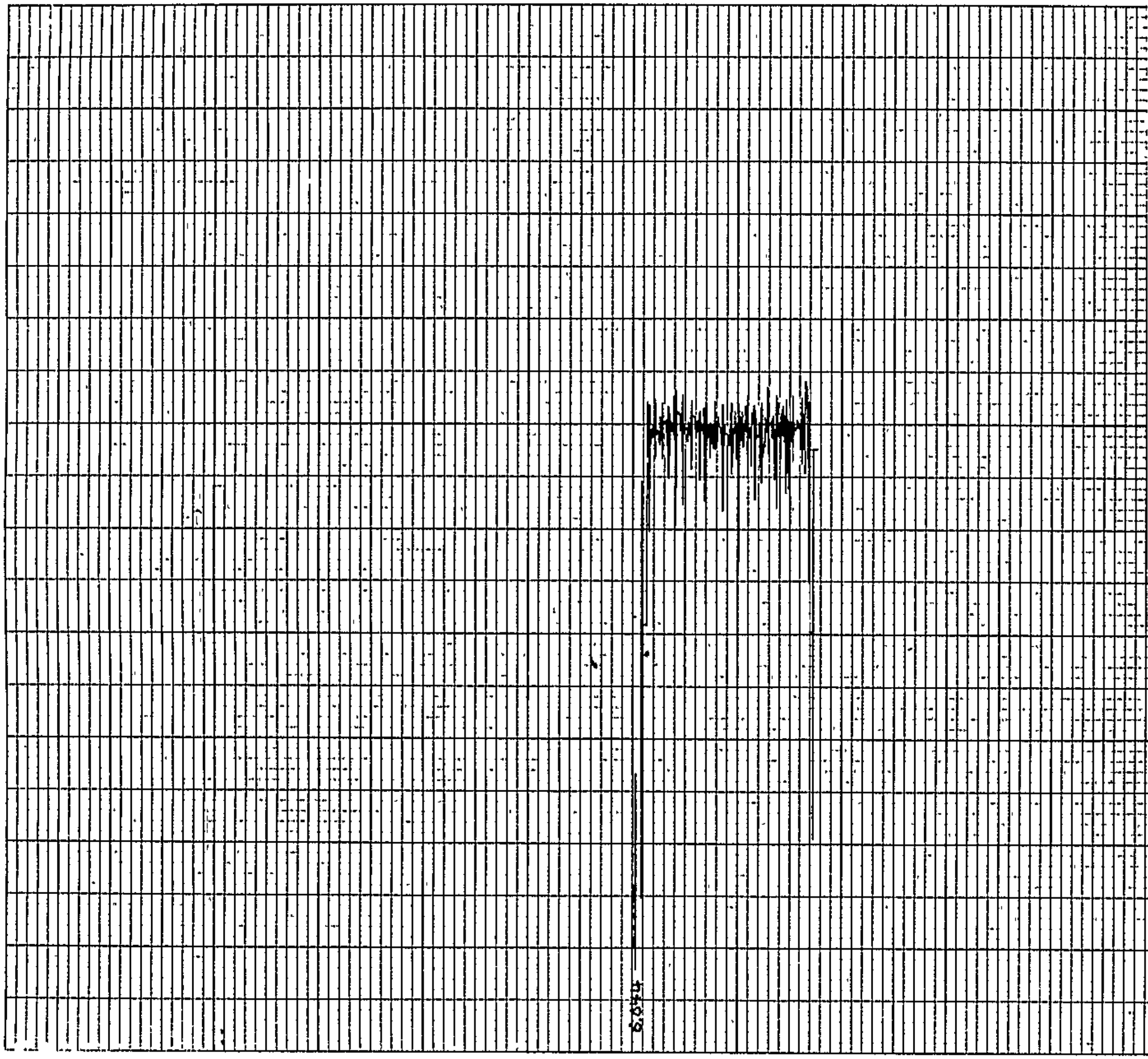


DATE: 4/8/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 214	
PLOT IDENTIFICATION : G - 4044	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS } $\frac{R}{R_2}$ =

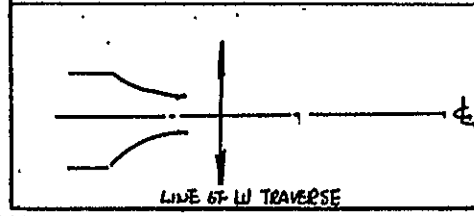
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS } $\frac{X}{D_{eq}}$ = 1.2

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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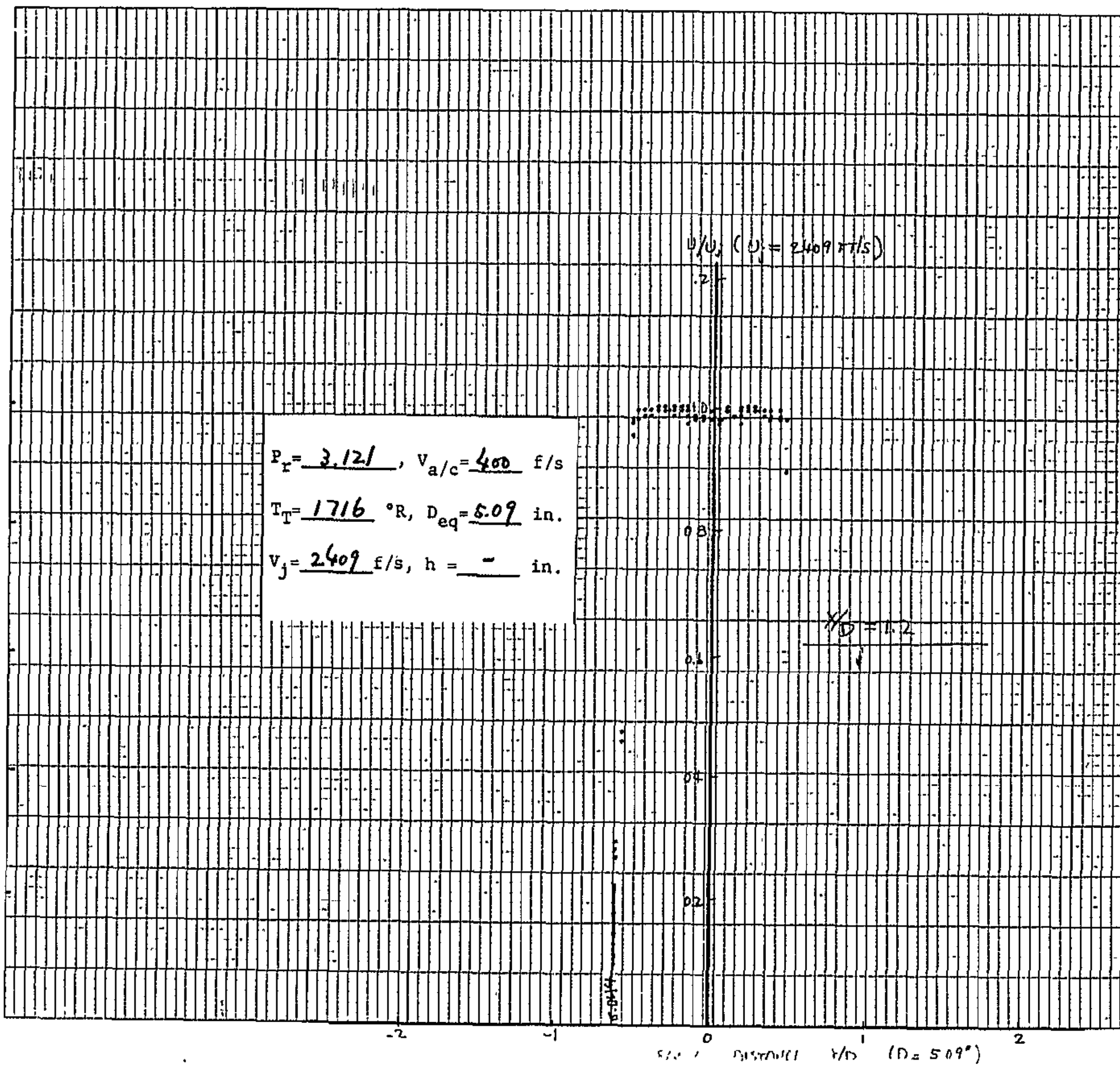
882



P_r= 3.121 , $V_{a/c}$= 400 f/s

T_T= 1716 °R, D_{eq}= 5.09 in.

V_j= 2409 f/s, h = – in.

DATE: 4/8/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 214	
PLOT IDENTIFICATION : G - 4045	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

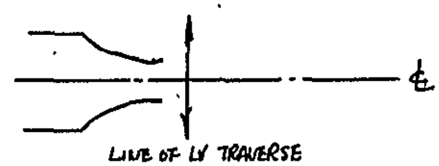
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ = 1.2

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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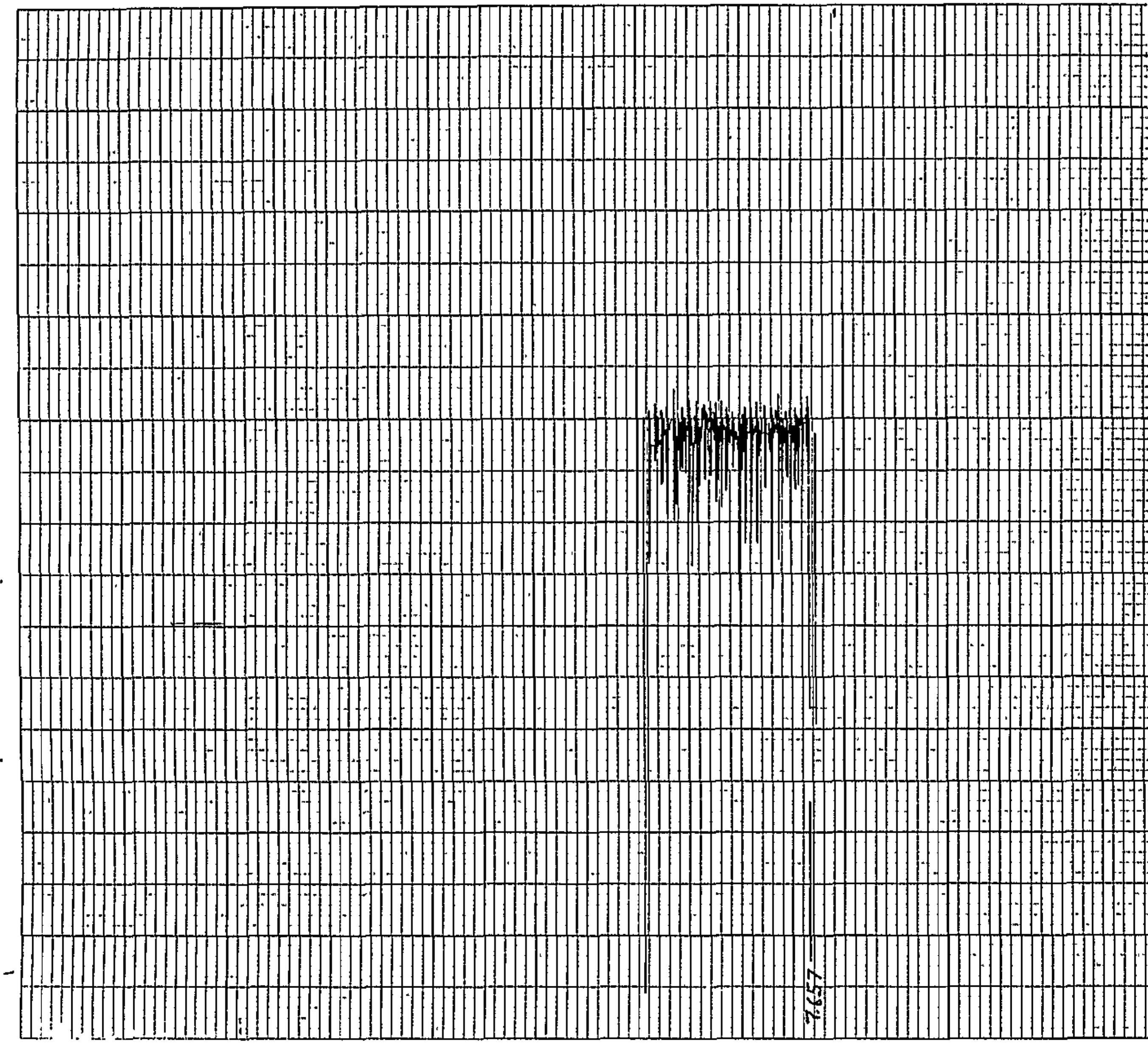


DATE: 4/8/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 214	
PLOT IDENTIFICATION : G - 4046	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS } $\frac{R}{R_2}$ =

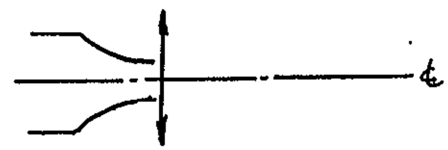
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS } $\frac{X}{D_{eq}}$ = 0.2

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



LINE OF LV TRAVERSE

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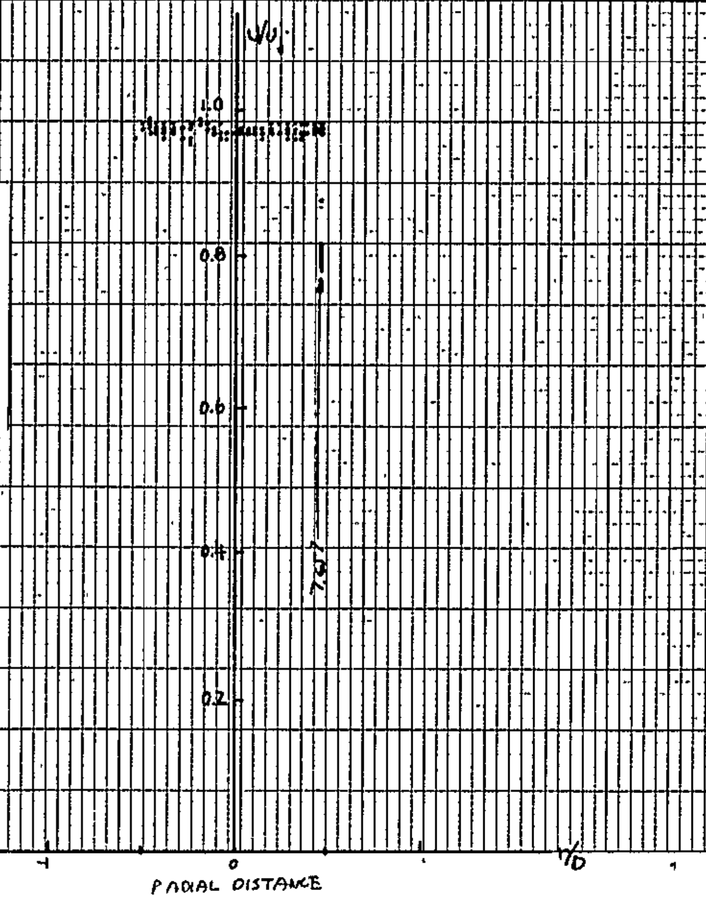


P_r = 3.121, $V_{a/c}$ = 400 f/s

T_T = 1716 °R, D_{eq} = 5.09 in.

V_j = 2409 f/s, h = - in.

DATE: 4/8/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 214	
PLOT IDENTIFICATION : G-4047	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

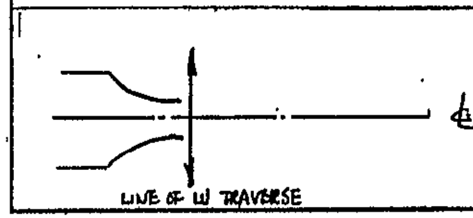
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 0.2

SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 385 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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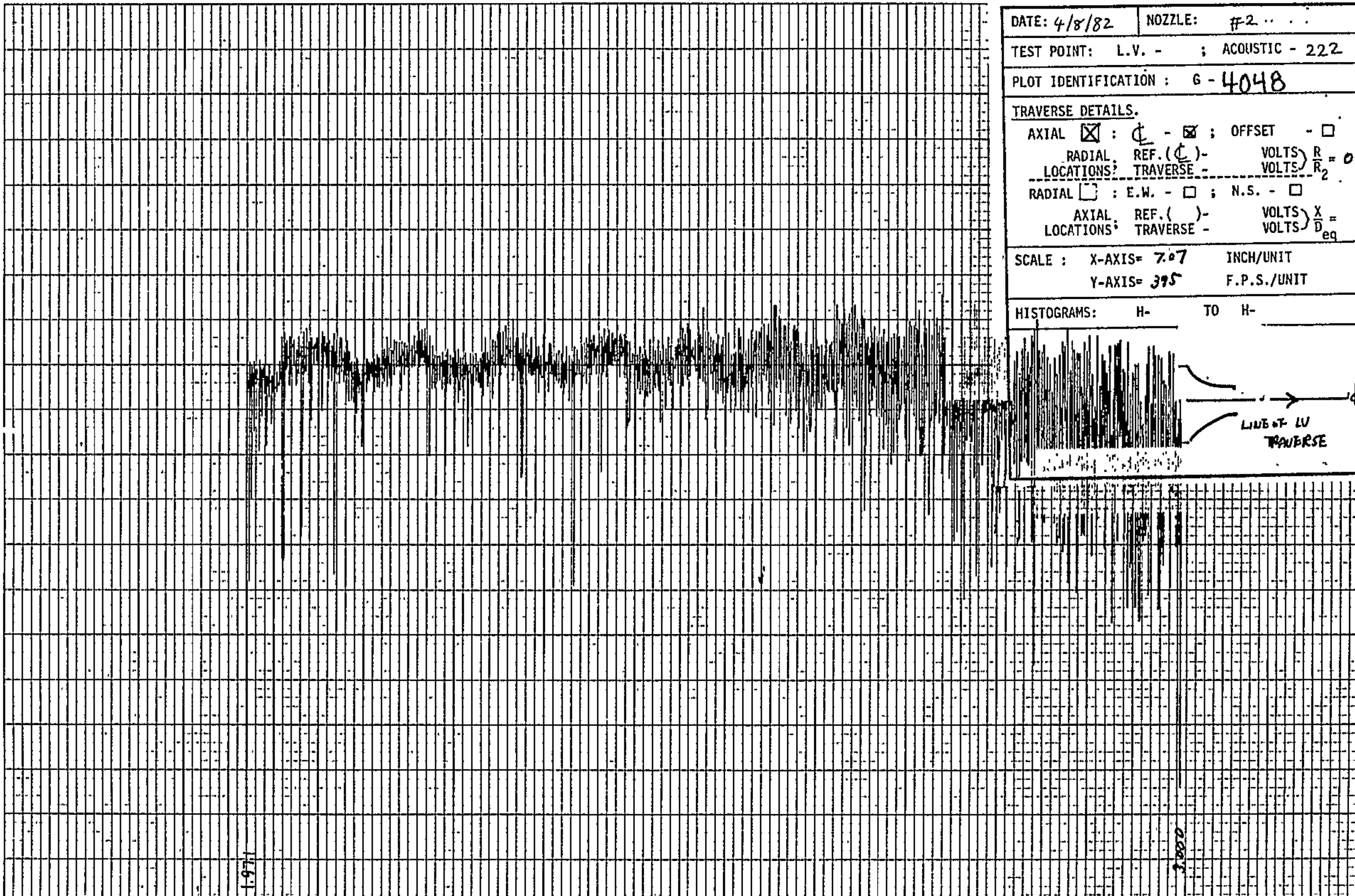
Model 2

Test Point 222



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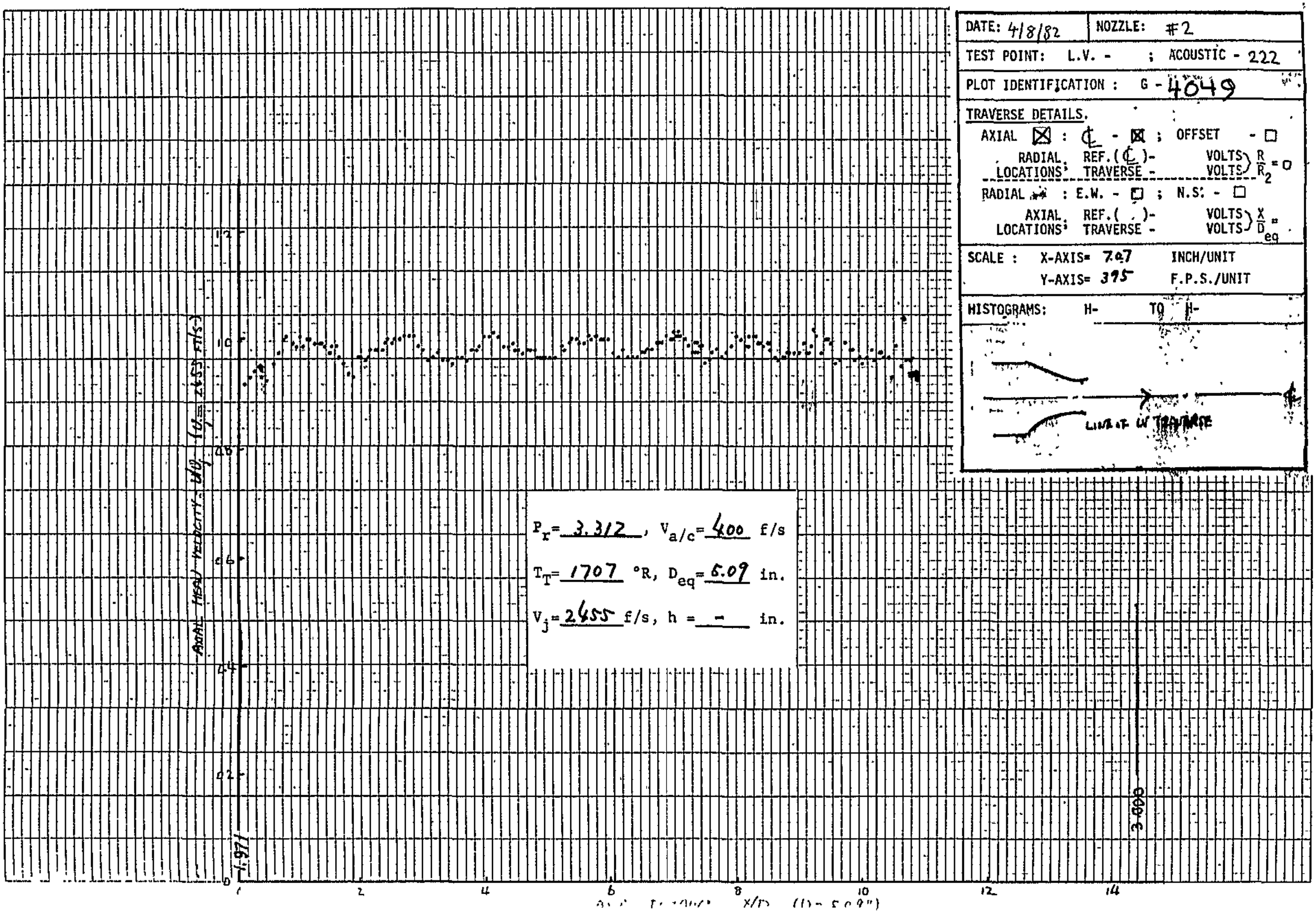


DATE: 4/8/82
NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 222
PLOT IDENTIFICATION : G - 4049
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)-TRAVERSE - VOLTS VOLTS R/R2 = ☐
RADIAL : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )-TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 7.07 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LIMIT OF TRAVERSE
℄
Pr= 3.312 , Va/c= 400 f/s
TT= 1707 °R, Deq= 5.09 in.
Vj= 2455 f/s, h = - in.
AXIAL MEAN VELOCITY, U/Uj (Uj = 2455 FT/S)
1.2
1.0
0.8
0.6
0.4
0.2
0
1.97
1
2
4
6
8
10
12
14
X/D (D = 5.09")
3.000

888

DATE: 4/8/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 222	
PLOT IDENTIFICATION : G - 4050	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

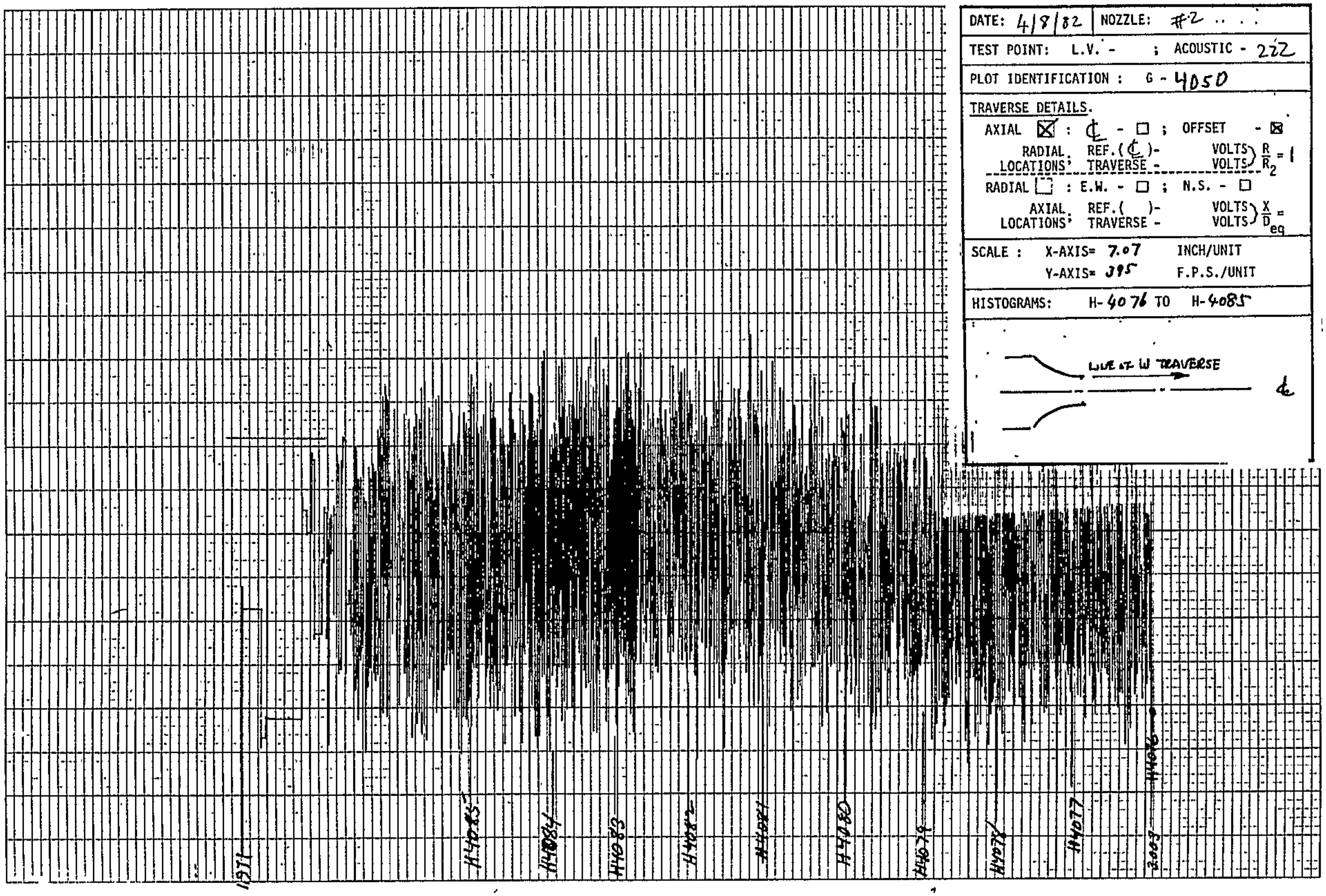
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.07 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H-4076 TO H-4085



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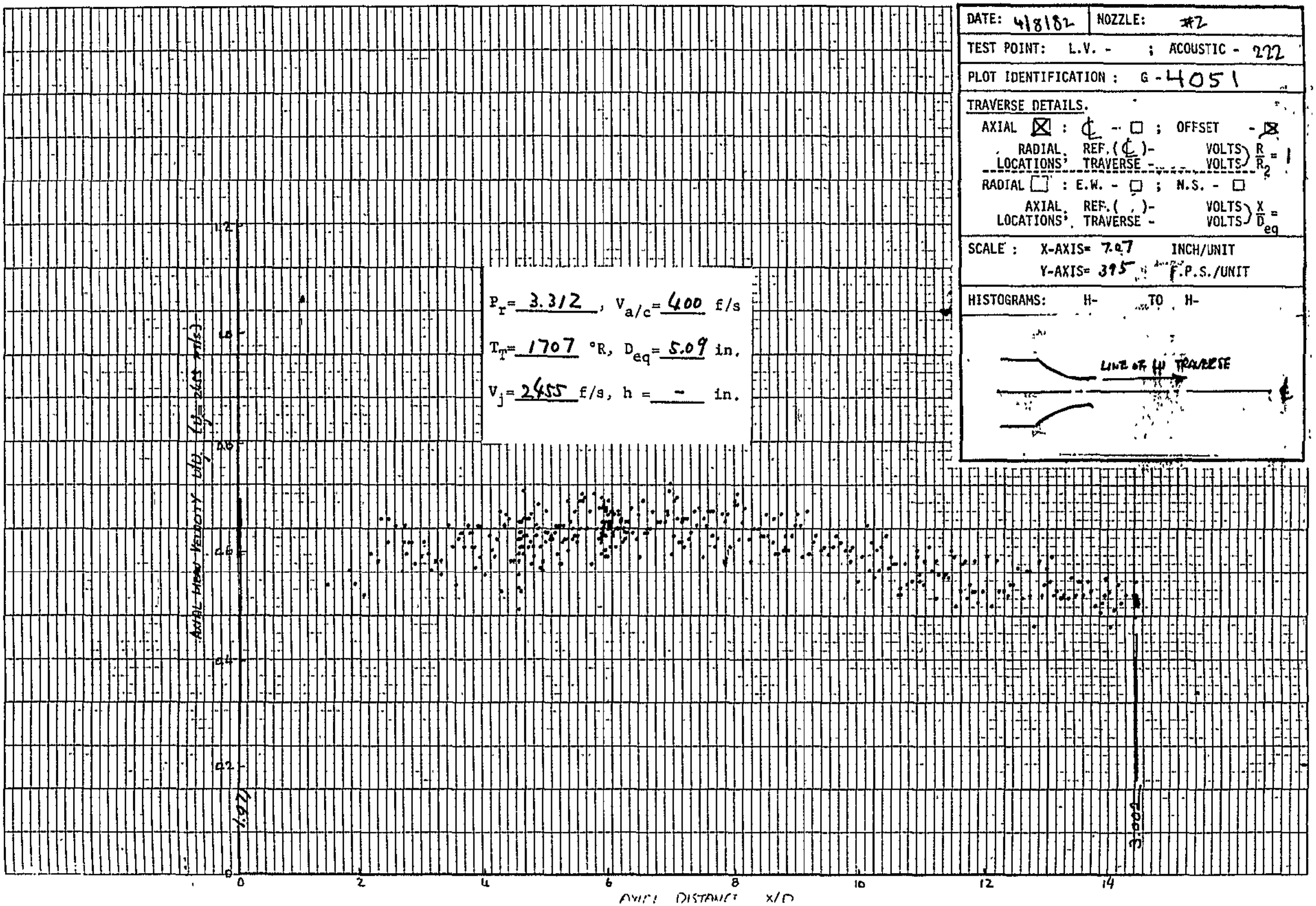

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068

No. XY 1101

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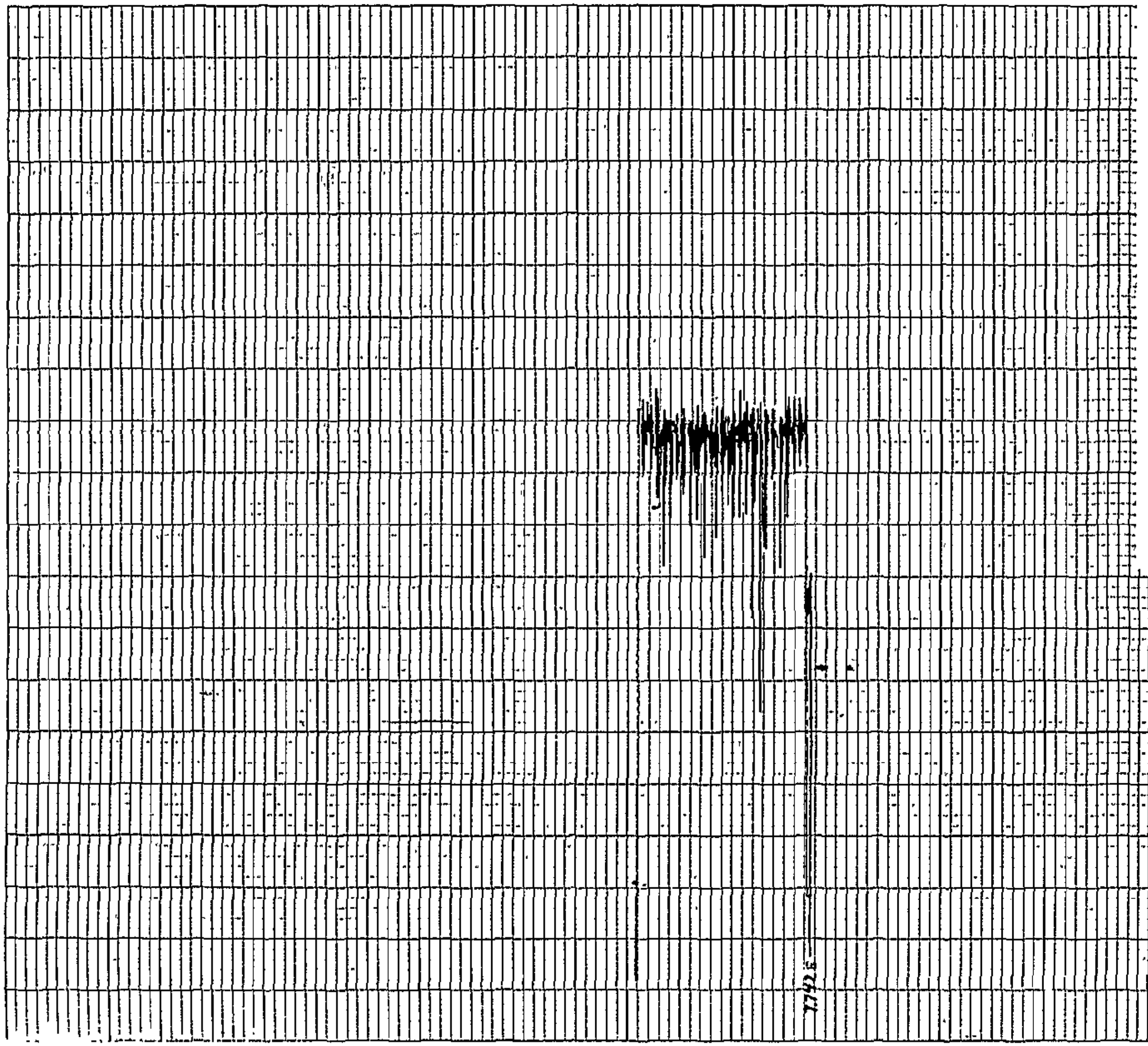


DATE: 4/8/82	NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 222	
PLOT IDENTIFICATION : G - 4052	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

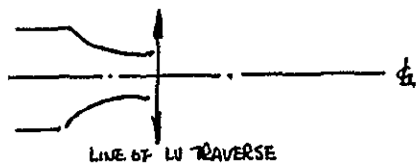
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

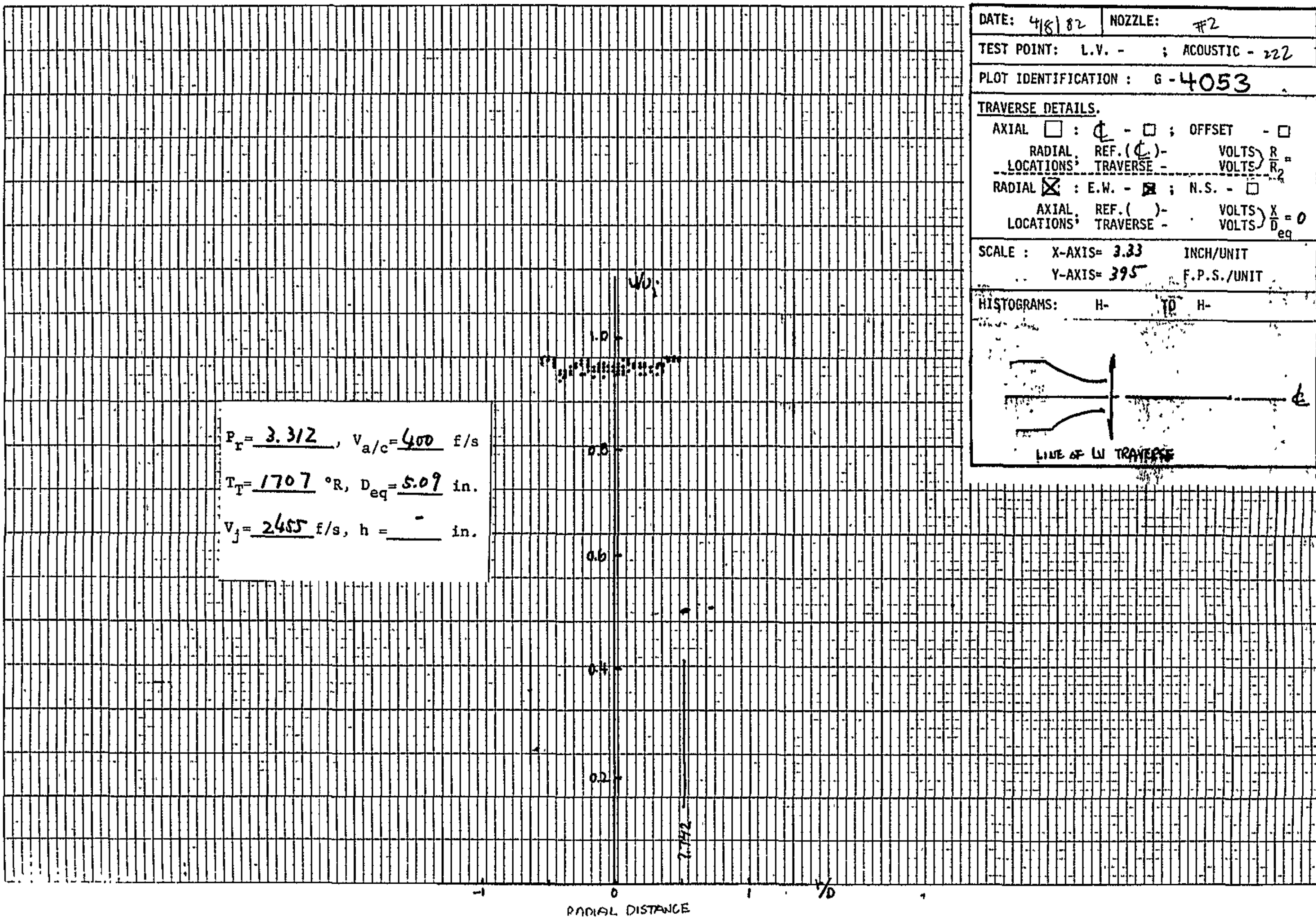
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS= .33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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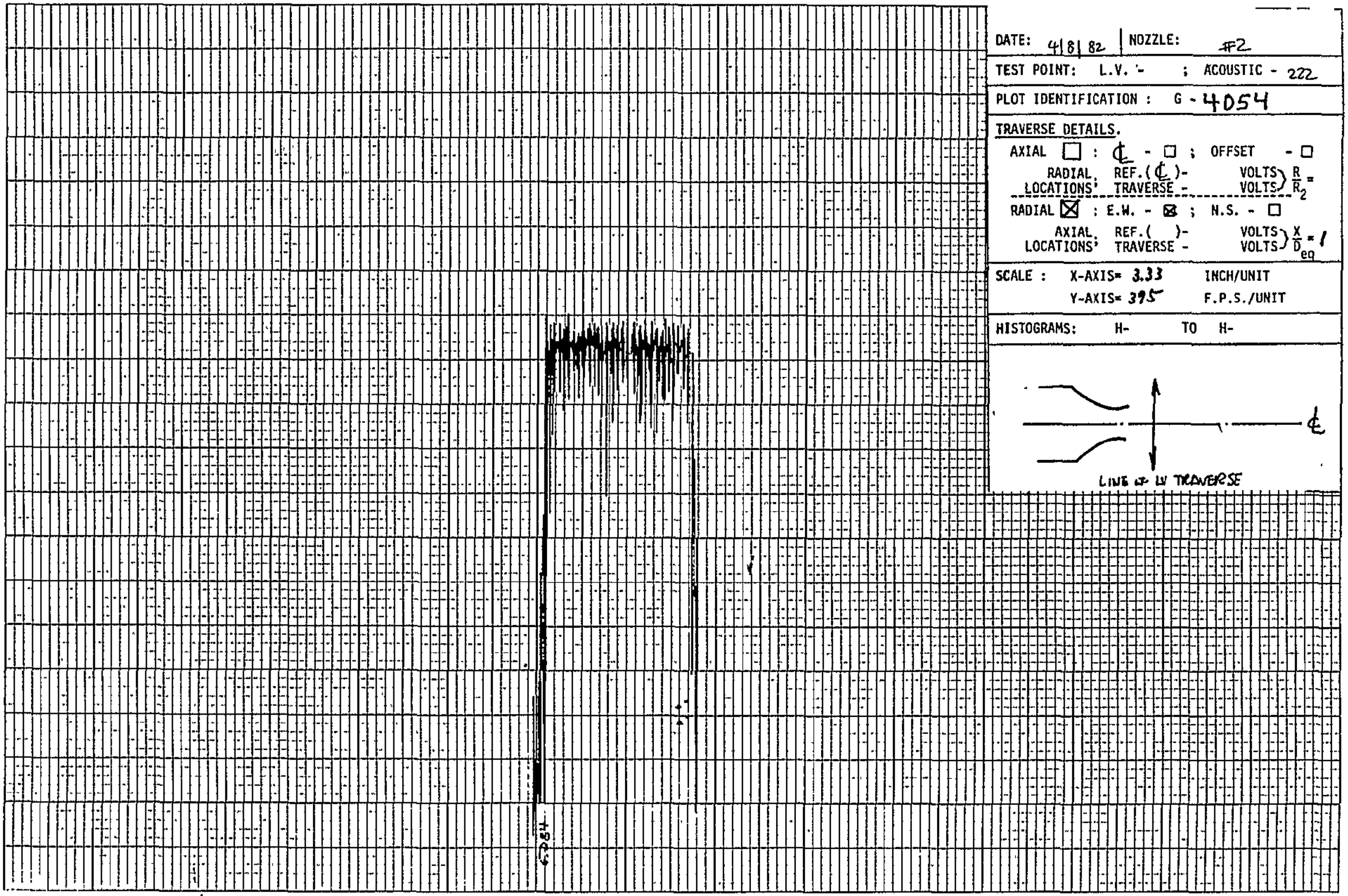


DATE: 4|8|82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 222

PLOT IDENTIFICATION : G - 4054

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

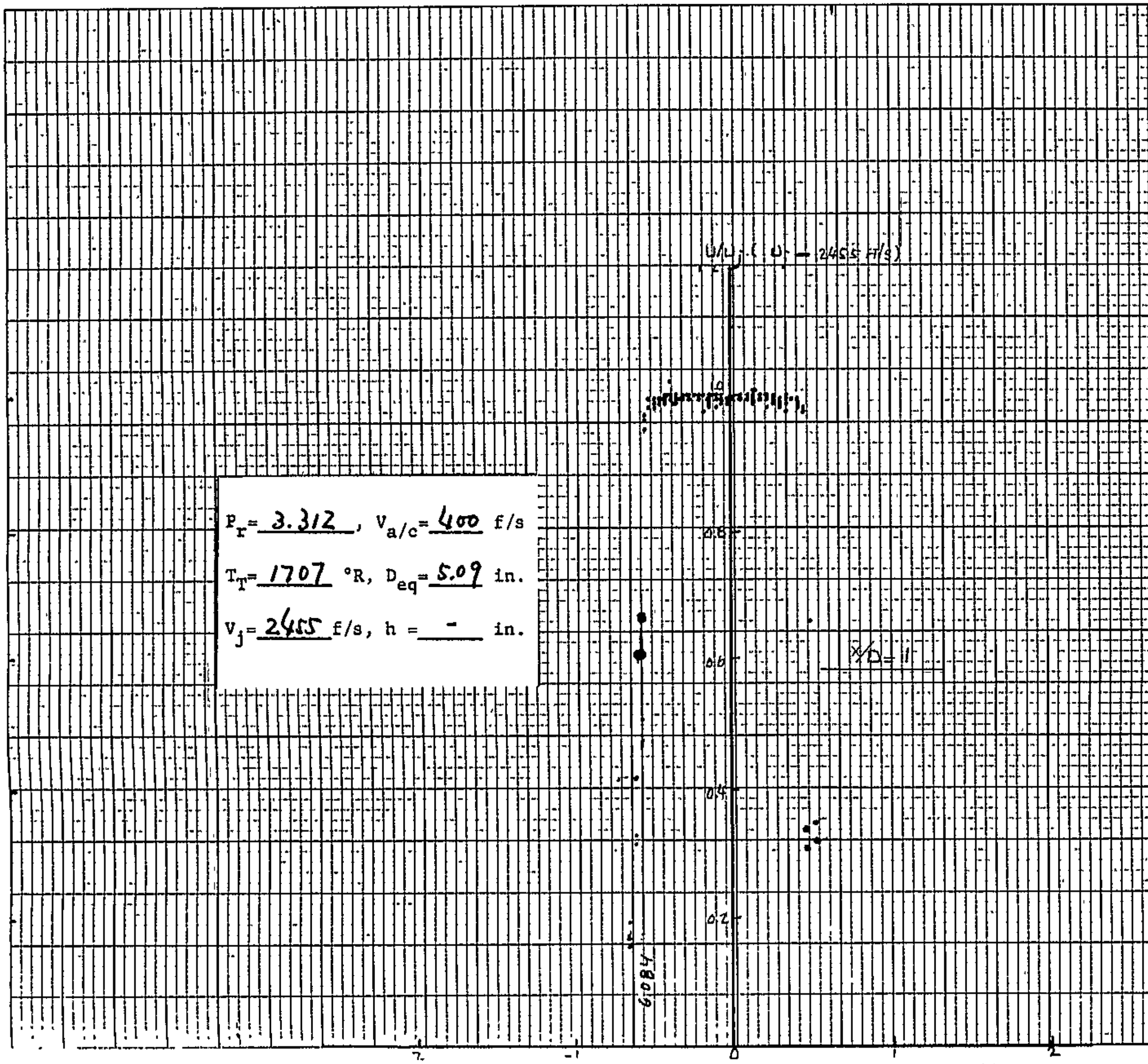
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 1

SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



P_r = 3.312, $V_{a/c}$ = 400 f/s

T_T = 1707 °R, D_{eq} = 5.09 in.

V_j = 2455 f/s, h = - in.

DATE: 4/8/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 222

PLOT IDENTIFICATION : G - 4055

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄) - VOLTS; TRAVERSE - VOLTS } R/R_2 =

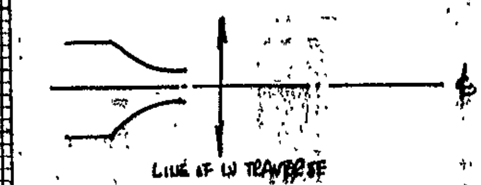
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( ) - VOLTS; TRAVERSE - VOLTS } X/D_{eq} = 1

SCALE : X-AXIS = 3.33 INCH/UNIT

Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



NO. XY 1101

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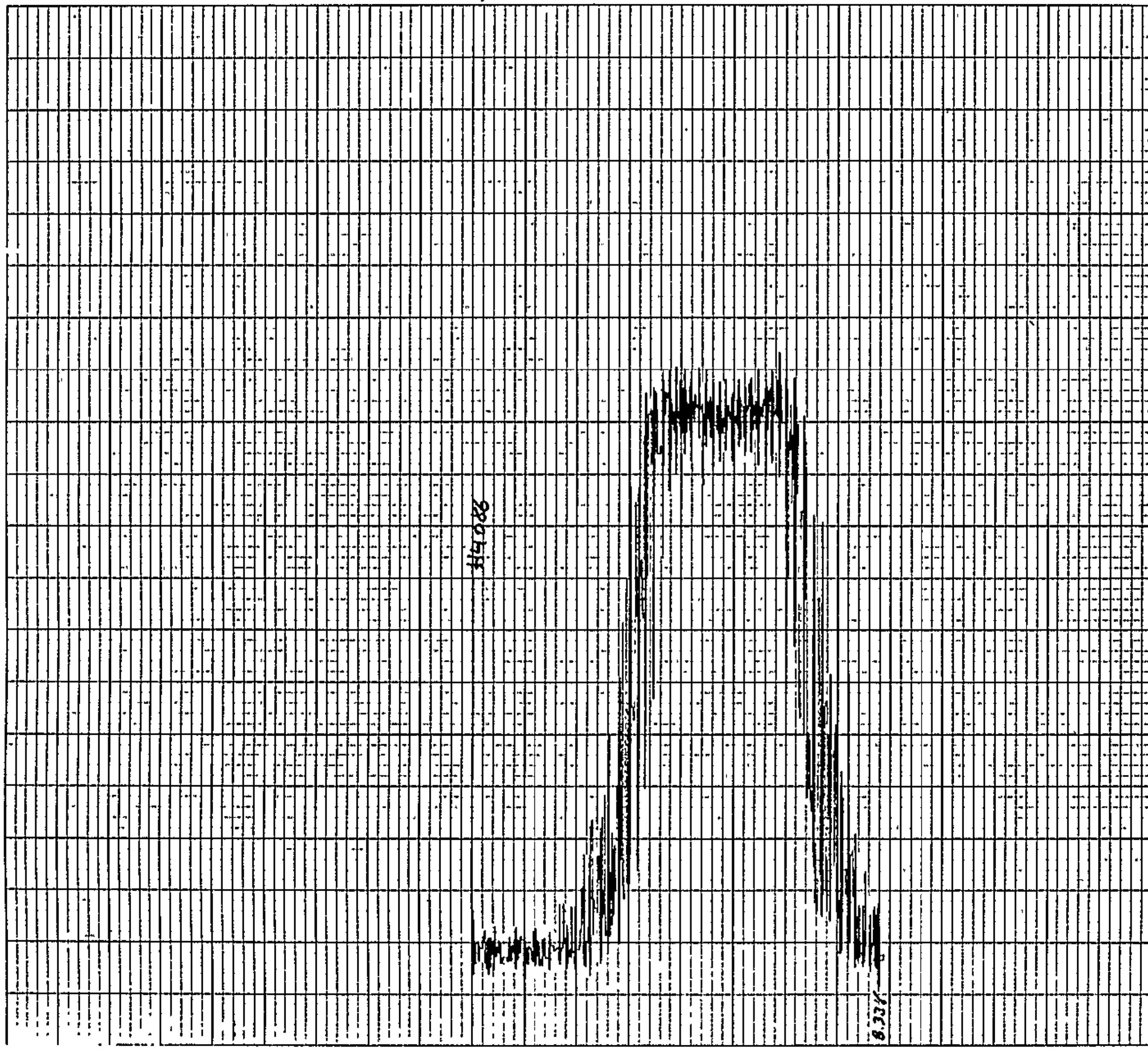


DATE: 4/8/82 | NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 222

PLOT IDENTIFICATION : G - 4056

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

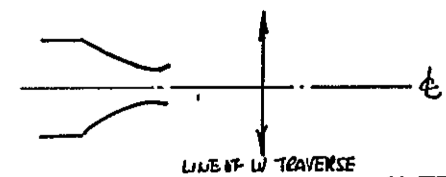
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 4.3

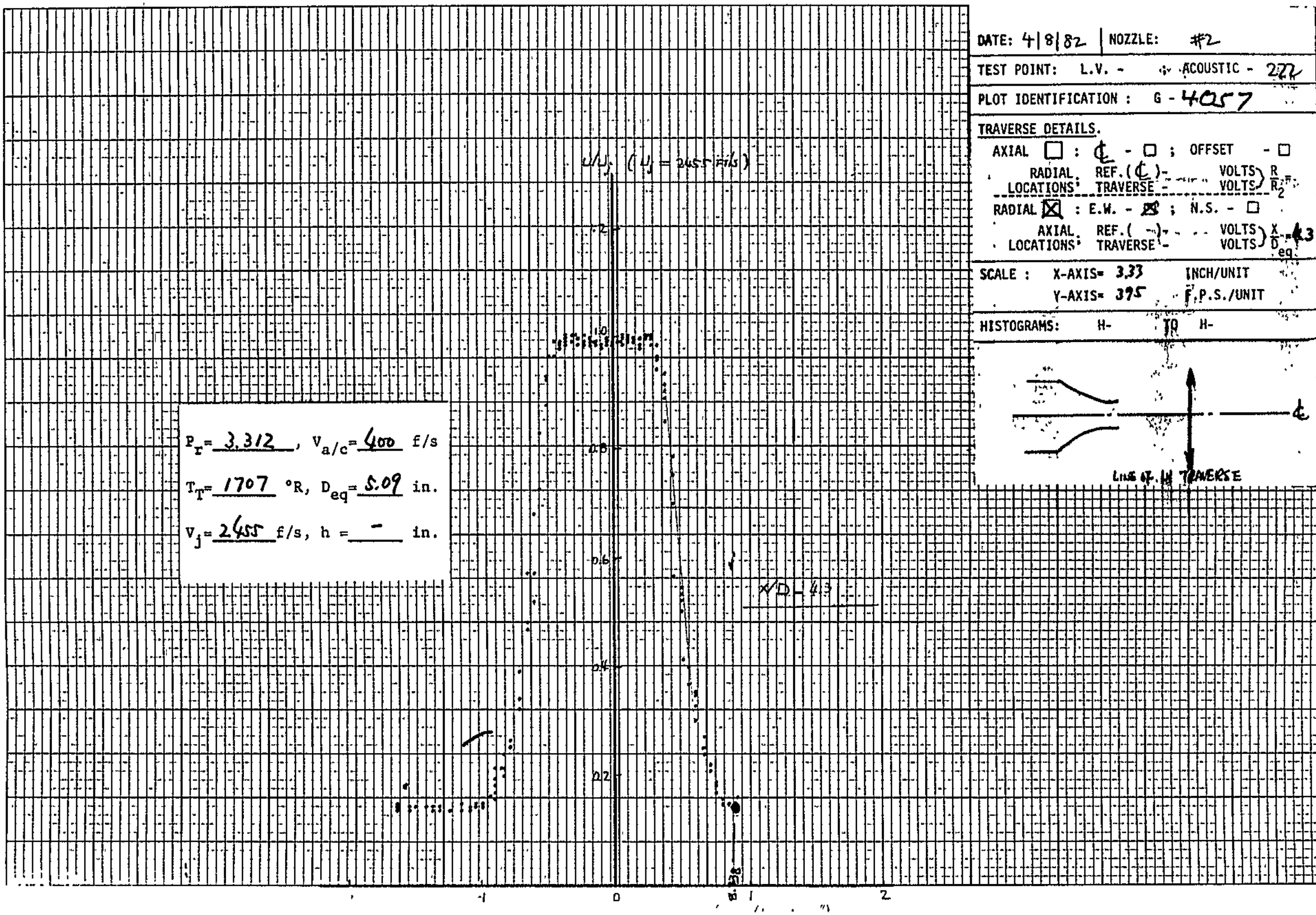
SCALE : X-AXIS = 3.33 INCH/UNIT

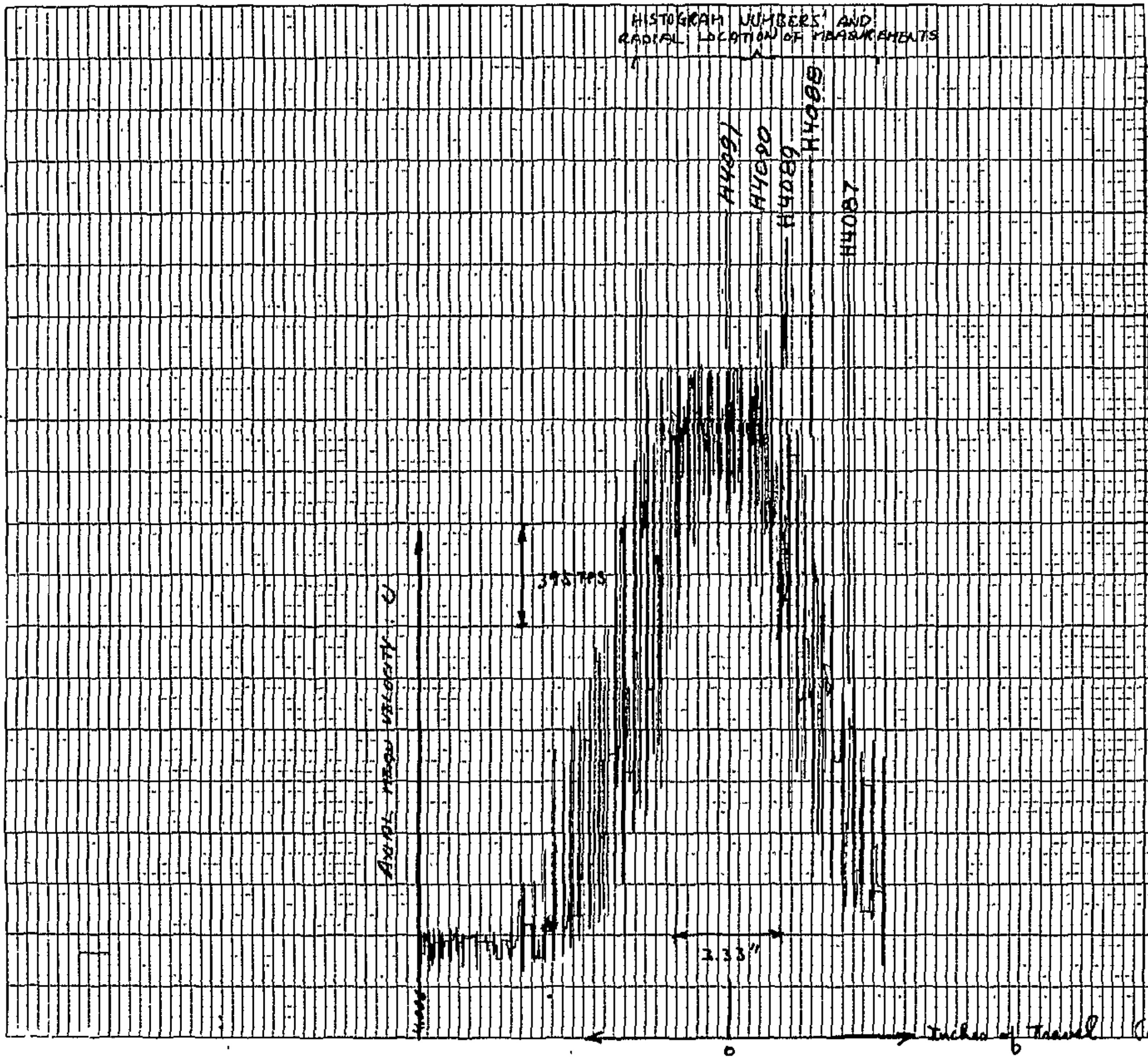
Y-AXIS = 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



963


DATE: 4/8/82
NOZZLE: #2
TEST POINT: L.V. - ACOUSTIC - 222
PLOT IDENTIFICATION : G - 4057
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.( ) - TRAVERSE - VOLTS VOLTS X/Deq = 43
SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
LINE OF LV TRAVERSE
P_r = 3.312 , $V_{a/c}$ = 400 f/s
T_T = 1707 °R, D_{eq} = 5.09 in.
V_j = 2455 f/s, h = - in.
u/u_j (u_j = 2455 ft/s)
1.2
1.0
0.8
0.6
0.4
0.2
X/D = 43
-1
0
1
2



DATE: 4/8/82	NOZZLE: #2

TEST POINT: L.V. - ; ACOUSTIC - 222

PLOT IDENTIFICATION : G - 4058

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS R/R_2 =

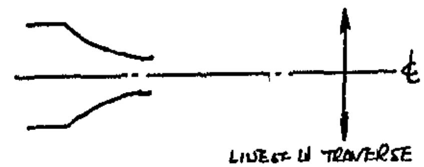
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

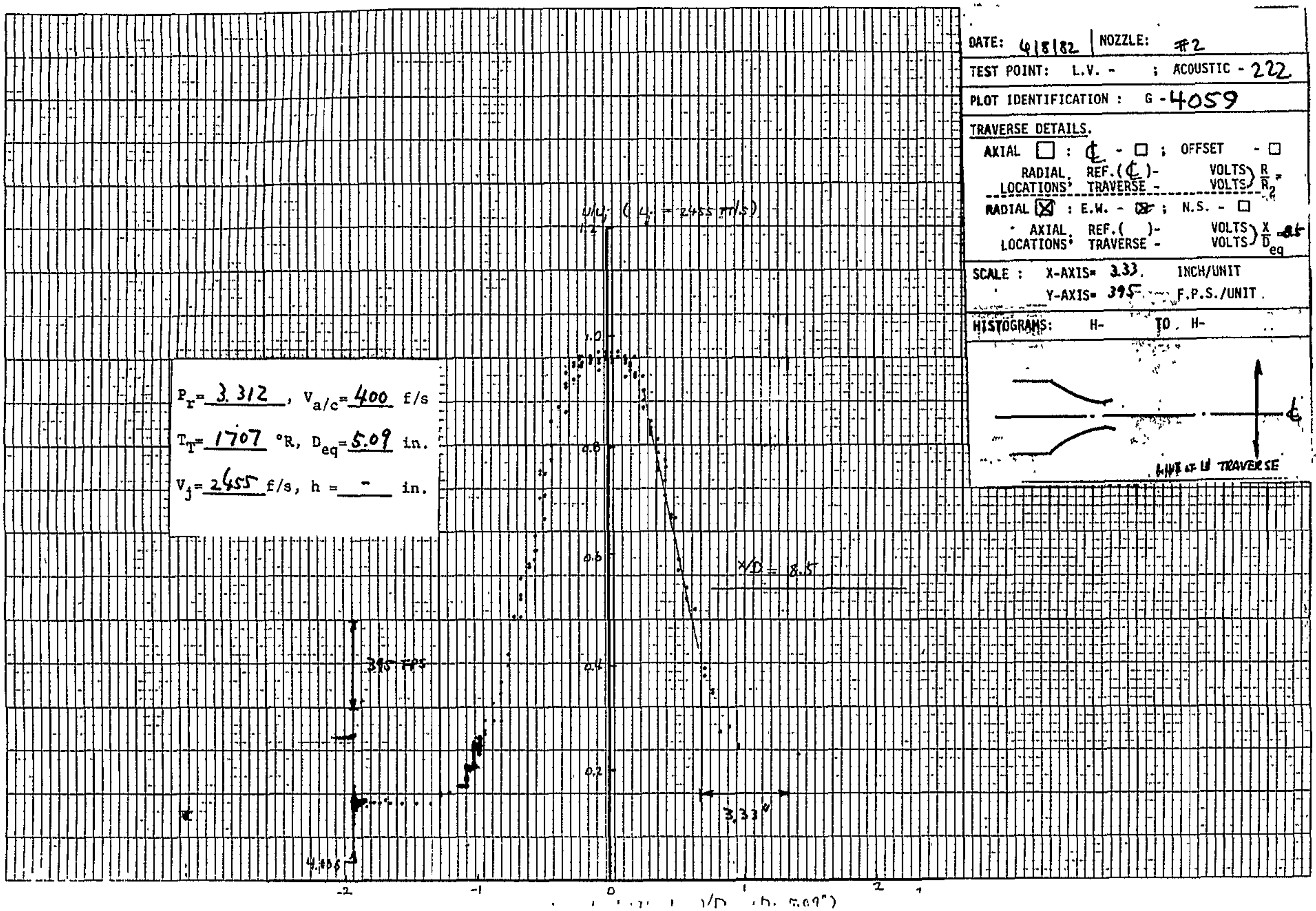
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS X/D_{eq} = 85

SCALE : X-AXIS= 3.33 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- 4087 TO H- 4091




DATE: 4/8/82 NOZZLE: #2
TEST POINT: L.V. - ; ACOUSTIC - 222
PLOT IDENTIFICATION : G - 4059
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq = 8.5
SCALE : X-AXIS= 3.33 INCH/UNIT
Y-AXIS= 395 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
P_r = 3.312, $V_{a/c}$ = 400 f/s
T_T = 1707 °R, D_{eq} = 5.09 in.
V_j = 2455 f/s, h = - in.
u/u_j (u_j = 2455 ft/s)
1.0
0.8
0.6
0.4
0.2
X/D = 8.5
395 FPS
3.33"
-2
-1
0
1
2

DATE: 10/13/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 309

PLOT IDENTIFICATION : G - 87

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2} = 0$

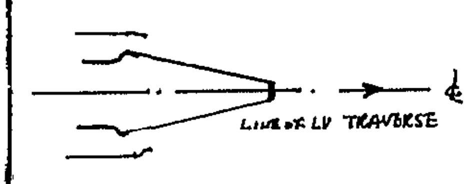
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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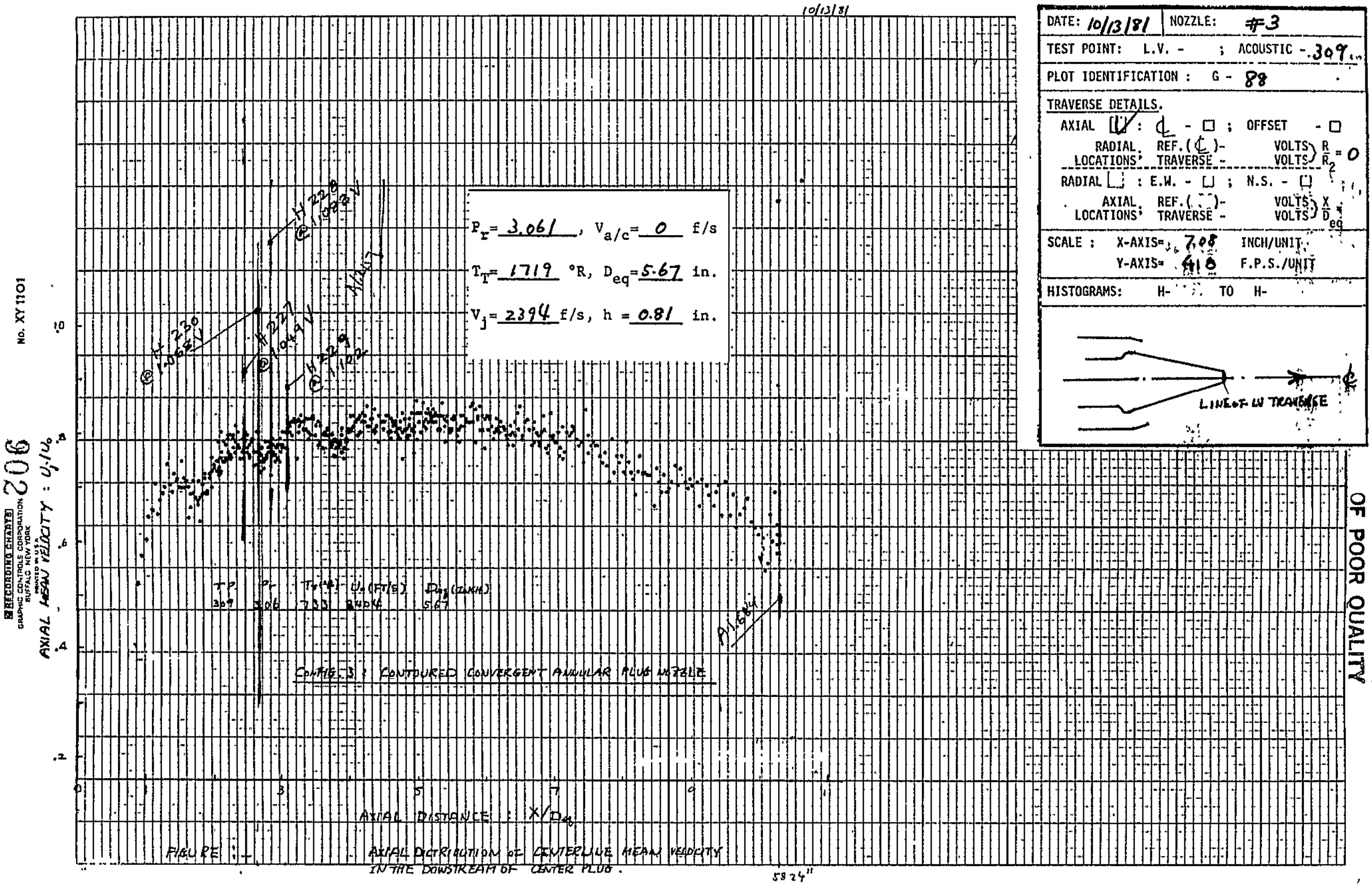
10/13/81
DATE: 10/13/81
NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 309
PLOT IDENTIFICATION : G - 88
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 = 0
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/Deq
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE of LV TRAVERSE
℄
Pr = 3.061, Va/c = 0 f/s
TT = 1719 °R, Deq = 5.67 in.
Vj = 2394 f/s, h = 0.81 in.
NO. XY 1101
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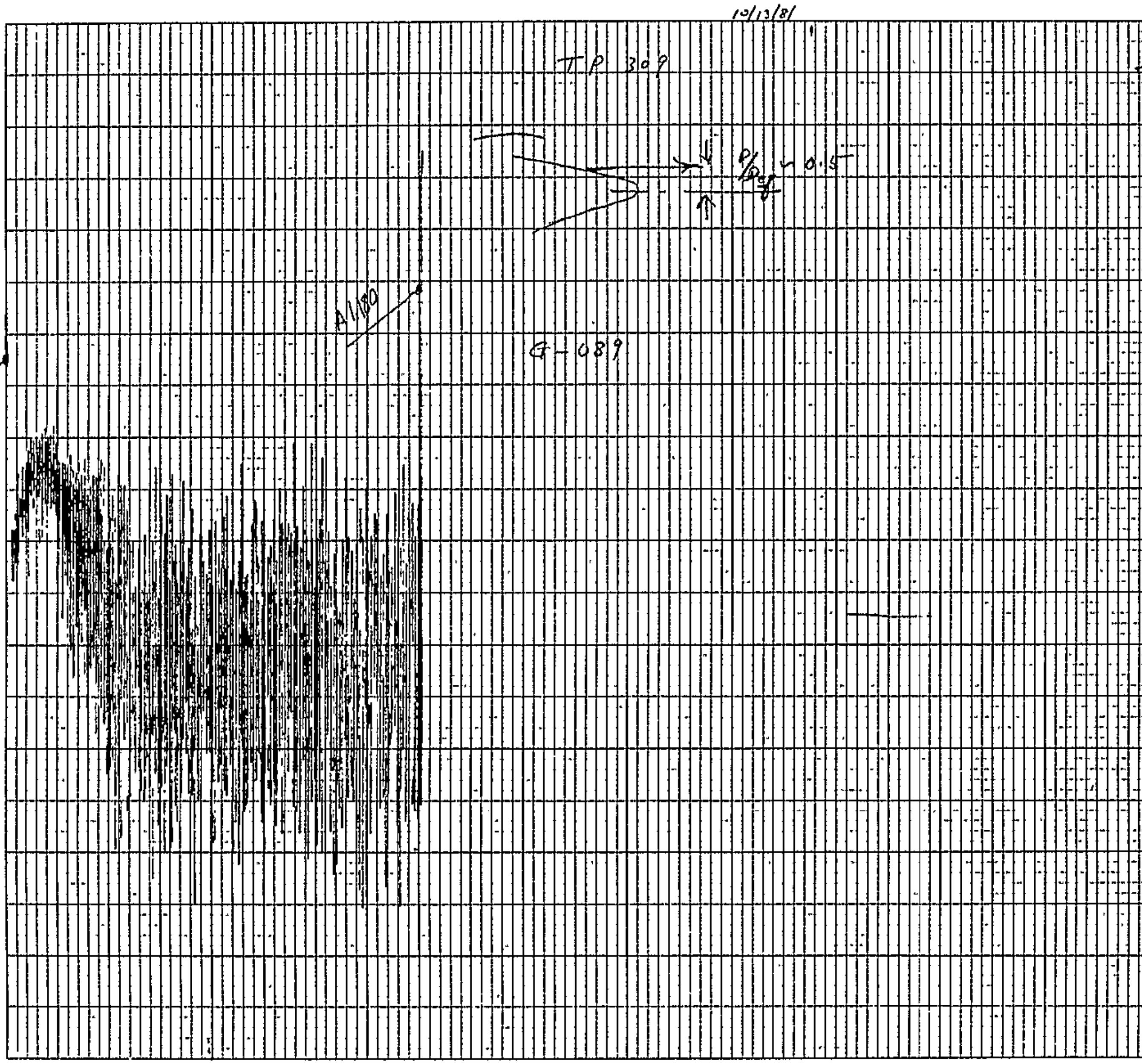
206
AXIAL MEAN VELOCITY : Uj/U0
AXIAL DISTANCE : X/Deq
T.P. Pr TT(°F) Uj(FT/S) Deq(INCH)
309 3.06 733 2394 5.67
CONFIG. 3 : CONTOURED CONVERGENT ANNULAR PLUG NOZZLE
FIGURE
AXIAL DISTRIBUTION OF CENTERLINE MEAN VELOCITY
IN THE DOWNSTREAM OF CENTER PLUG.
5824"



DATE: 10/13/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 309

PLOT IDENTIFICATION : G - 89

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

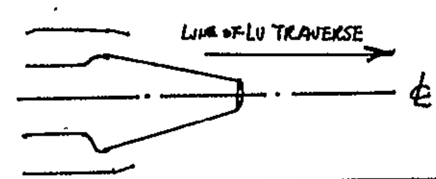
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS VOLTS } R/R₂ ≃ 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS VOLTS } X/D_eq =

SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 10/13/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 309

PLOT IDENTIFICATION : G - 90

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2} \simeq 1$

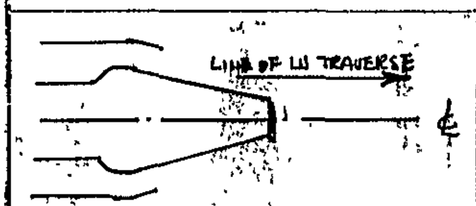
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

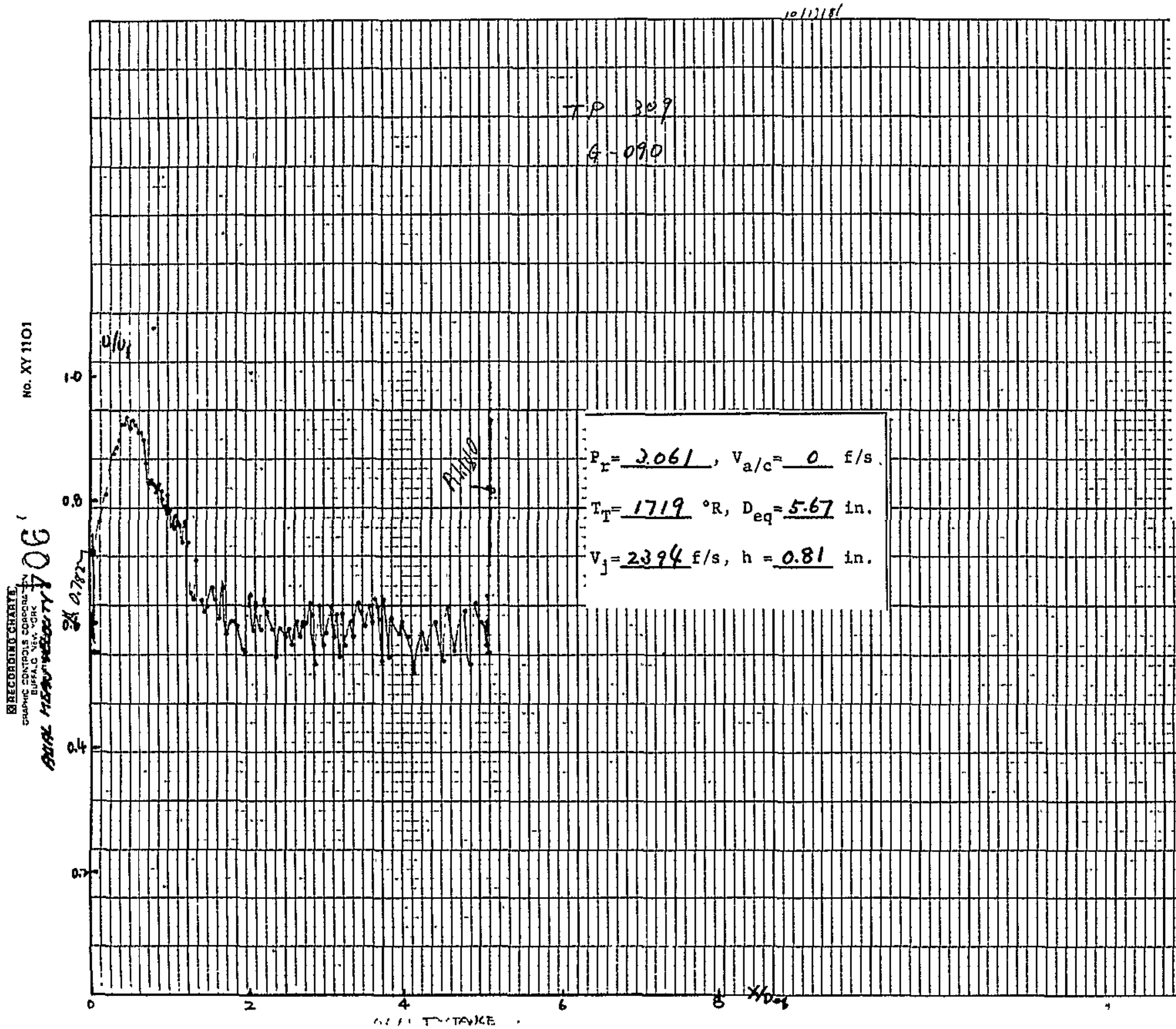
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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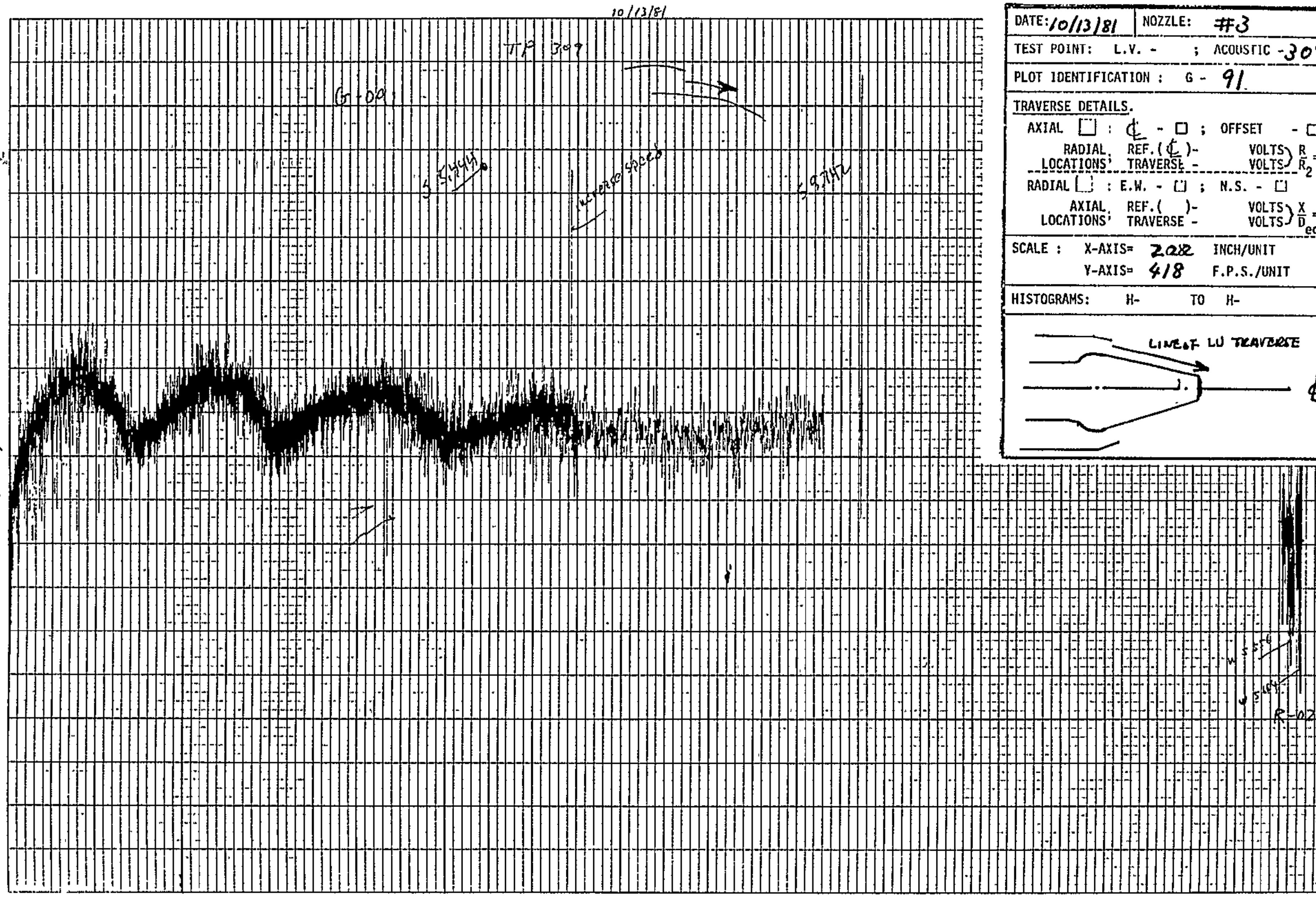

DATE: 10/13/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 309

PLOT IDENTIFICATION : G - 91

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.02 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE of LV TRAVERSE

℄

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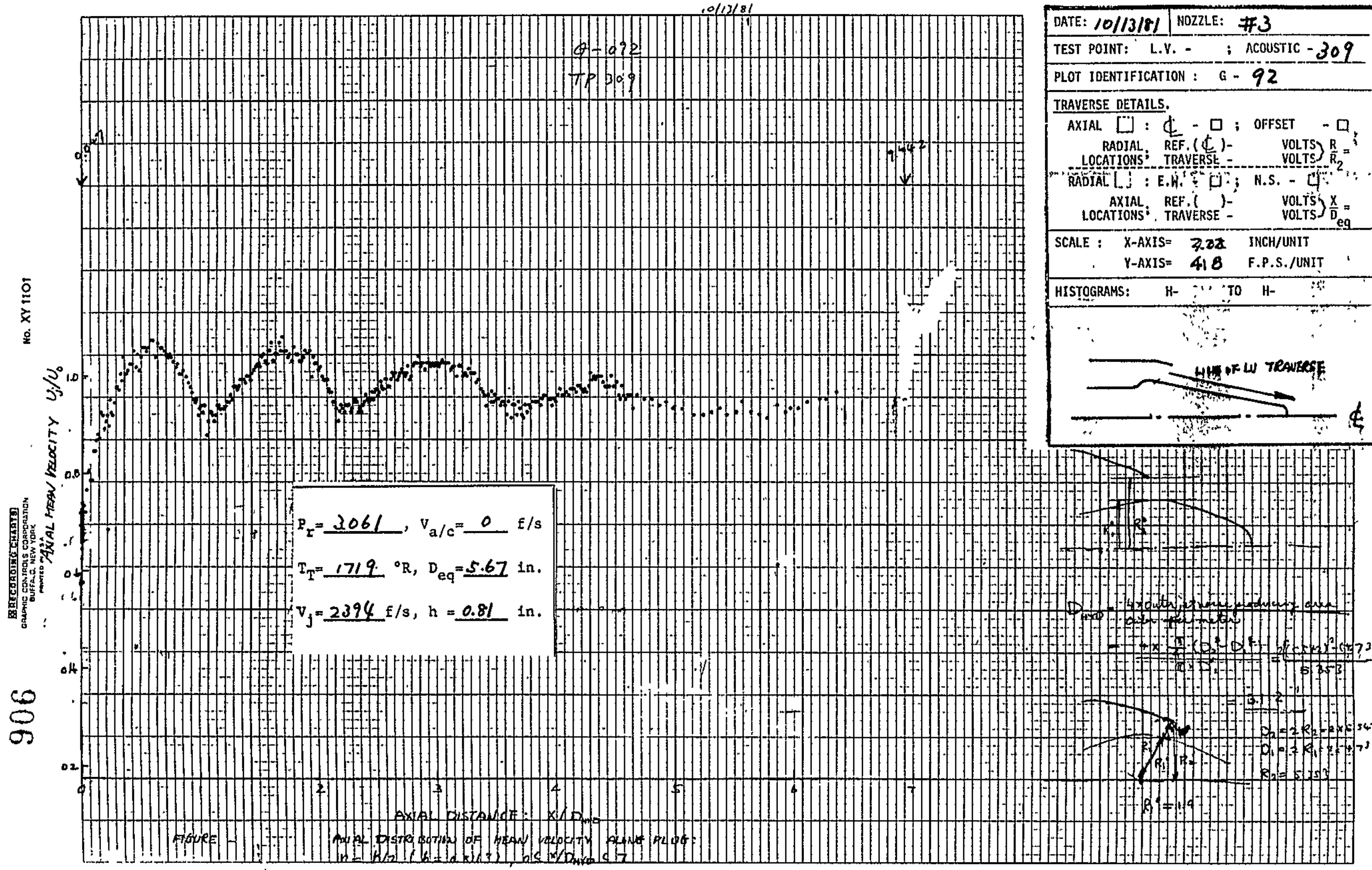

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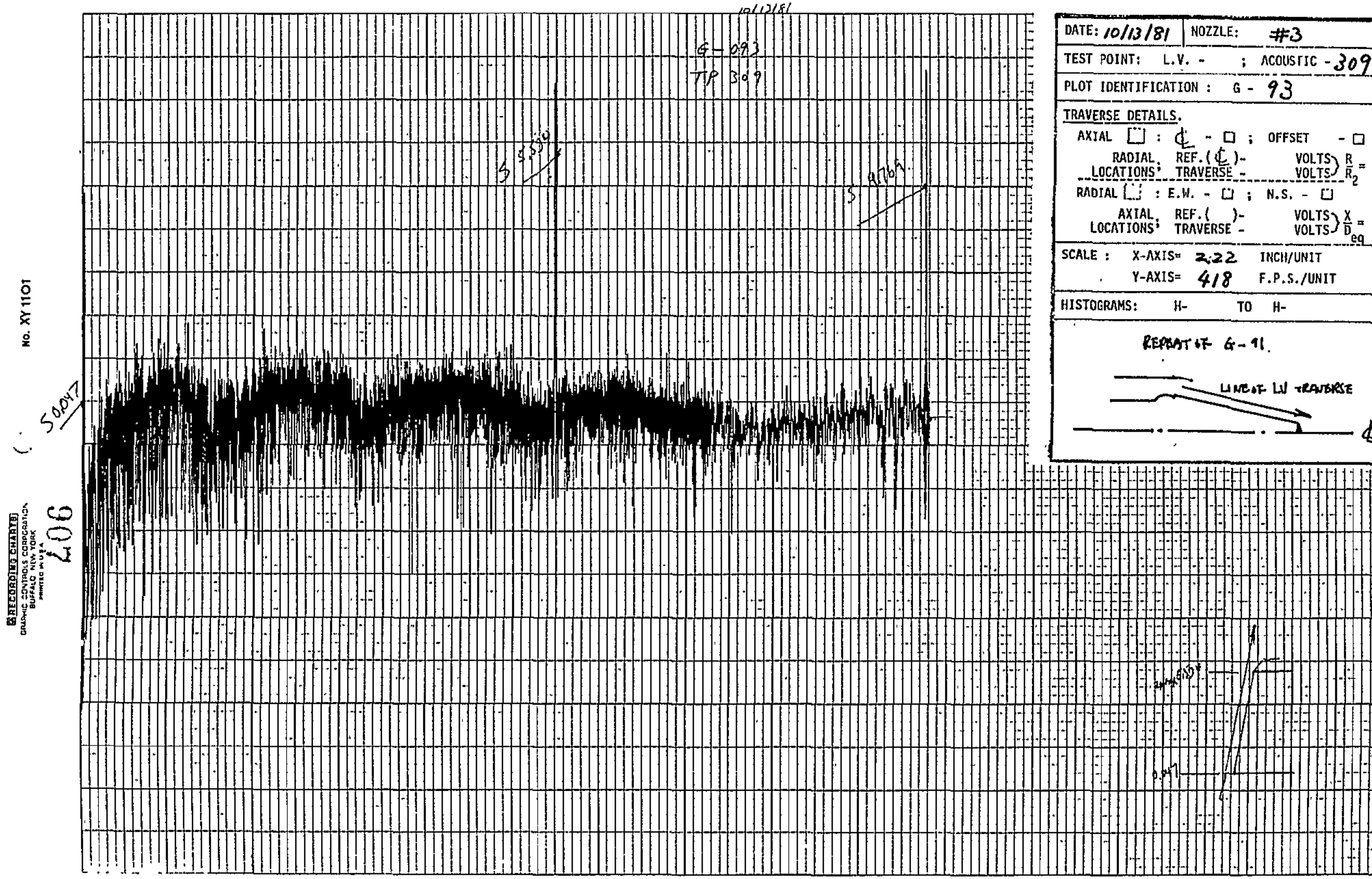
906



DATE: 10/13/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 309

PLOT IDENTIFICATION : G - 93

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

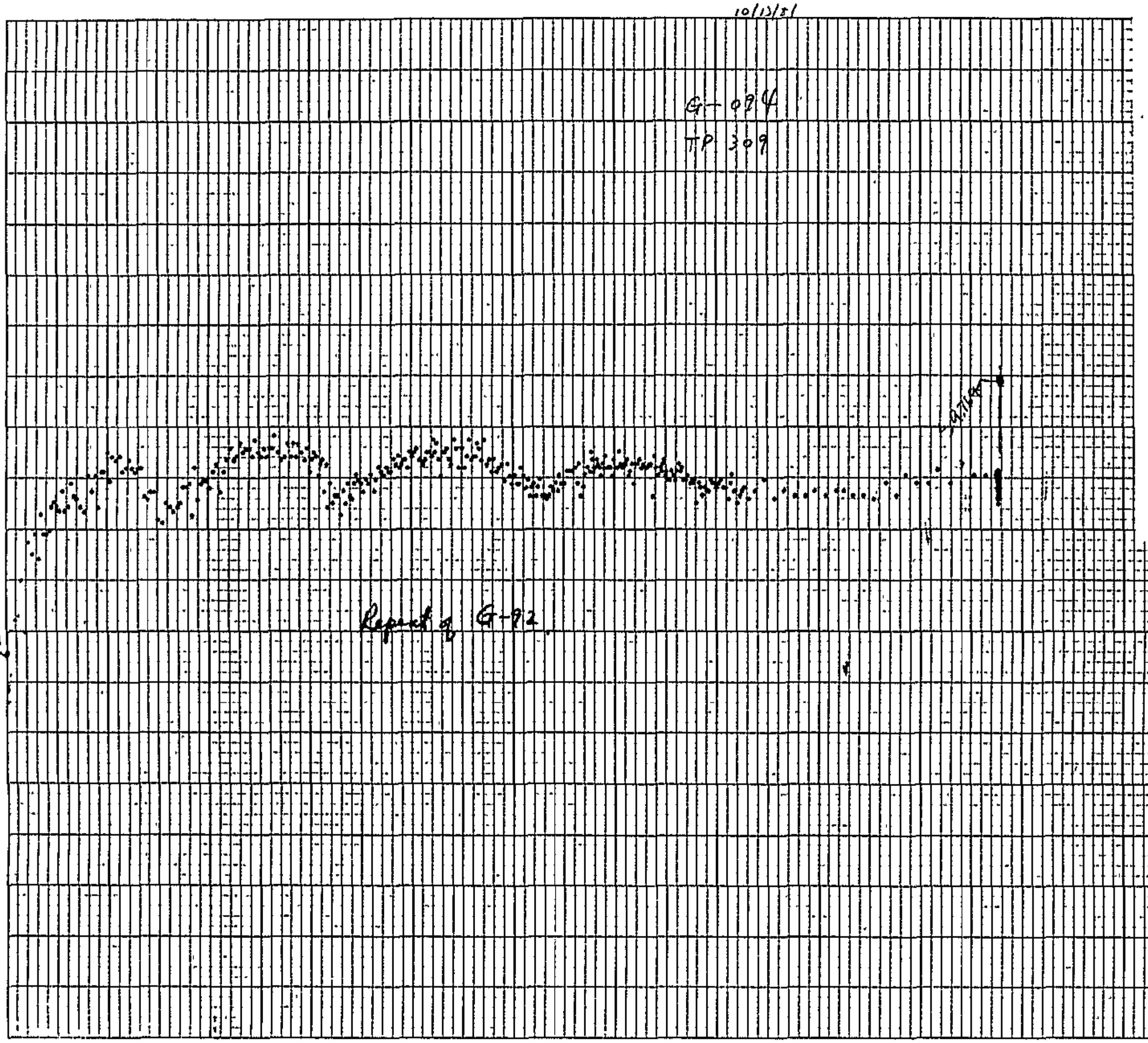
Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-

REPEAT OF G-91.

LINE OF LV TRAVERSE

℄



DATE: 10/12/81 NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 309

PLOT IDENTIFICATION : G - 94

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - [ ] ; OFFSET - [ ]

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

RADIAL [ ] : E.W. - [ ] ; N.S. - [ ]

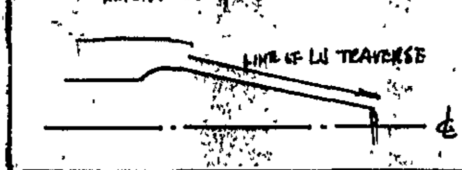
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

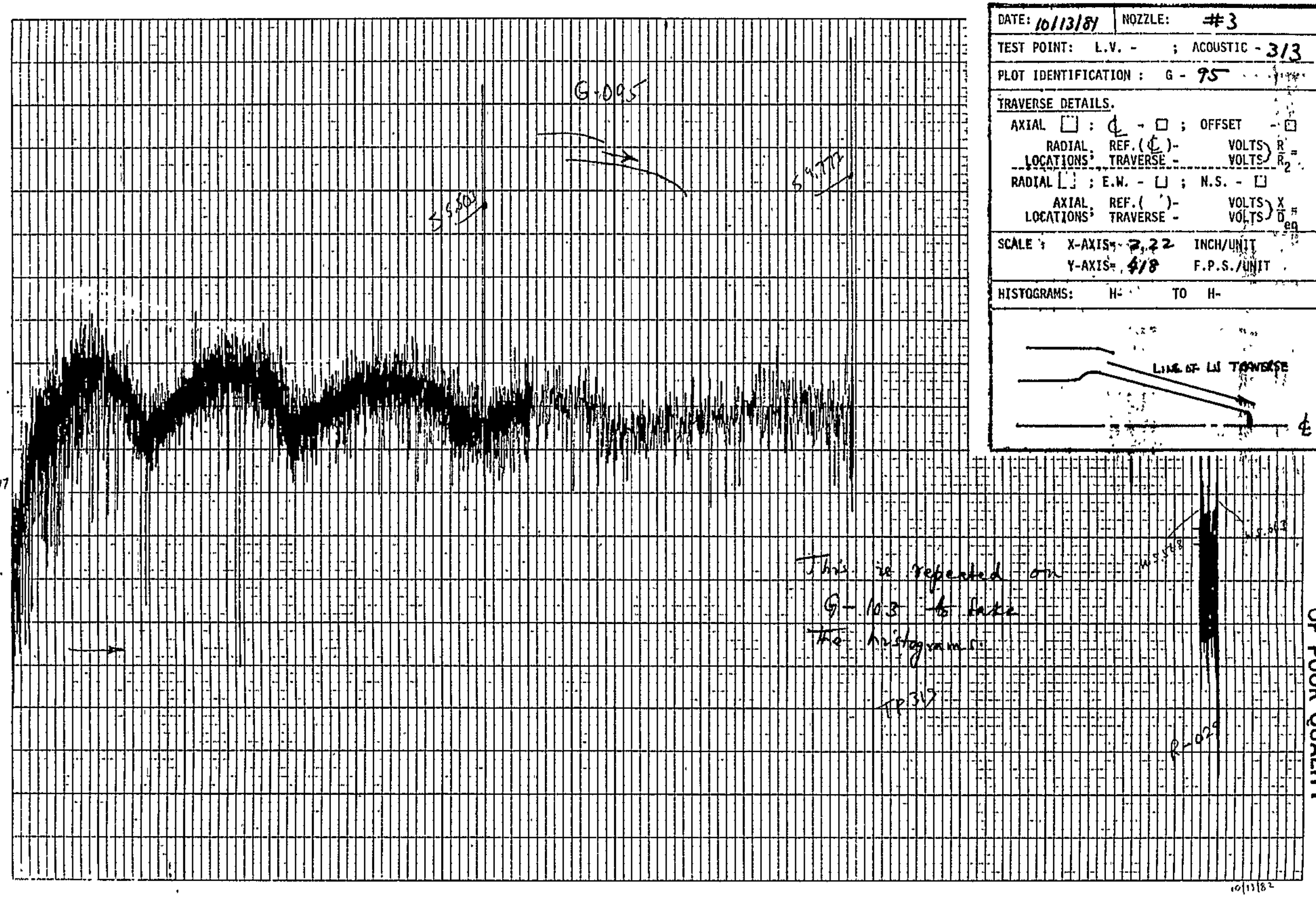
Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-

REPEAT OF G-92



806



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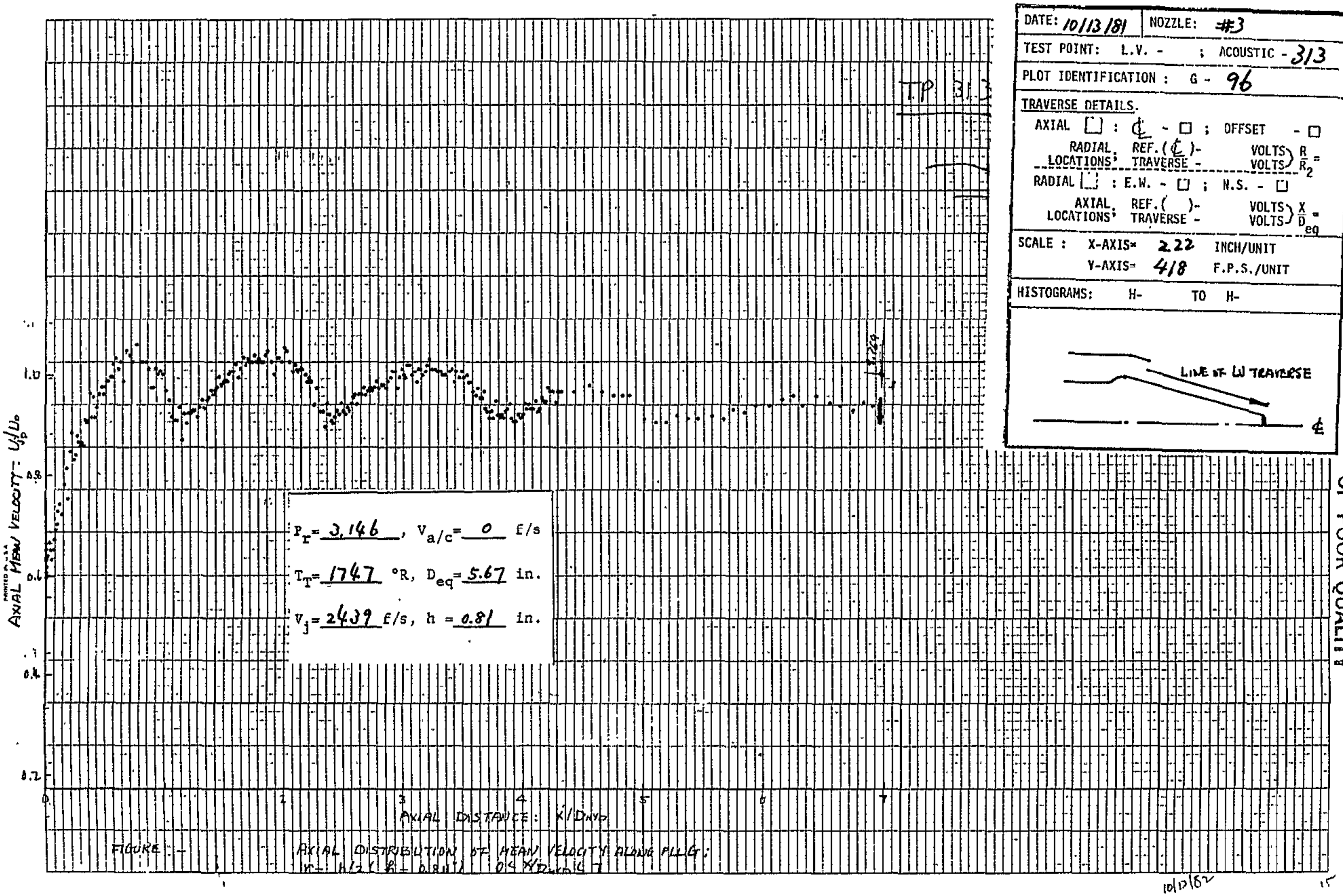

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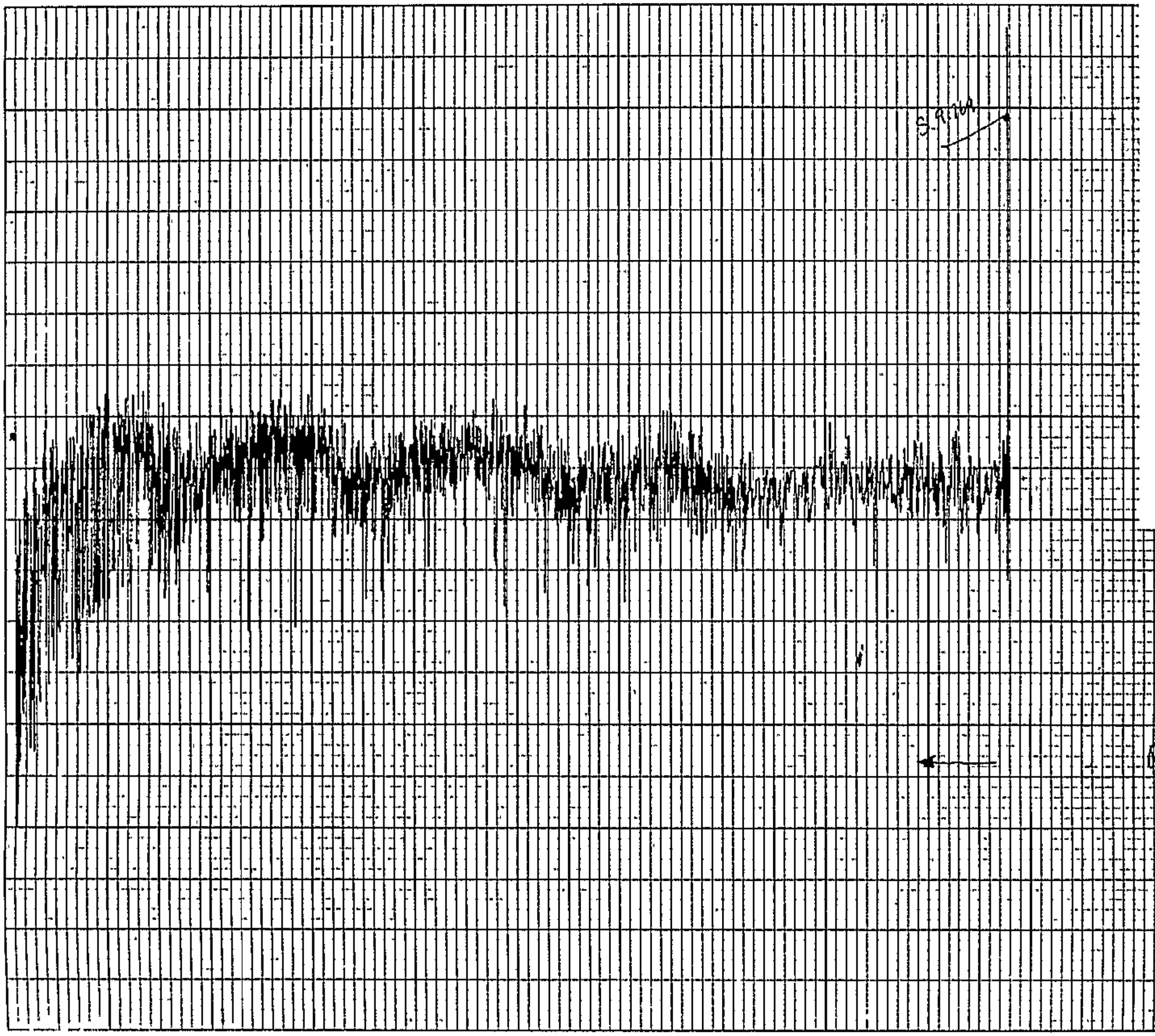
912



DATE: 10/13/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 313

PLOT IDENTIFICATION : G - 97

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

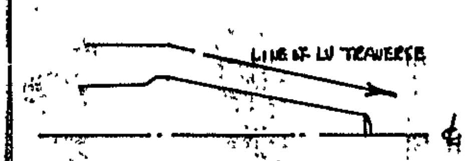
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS } R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS } X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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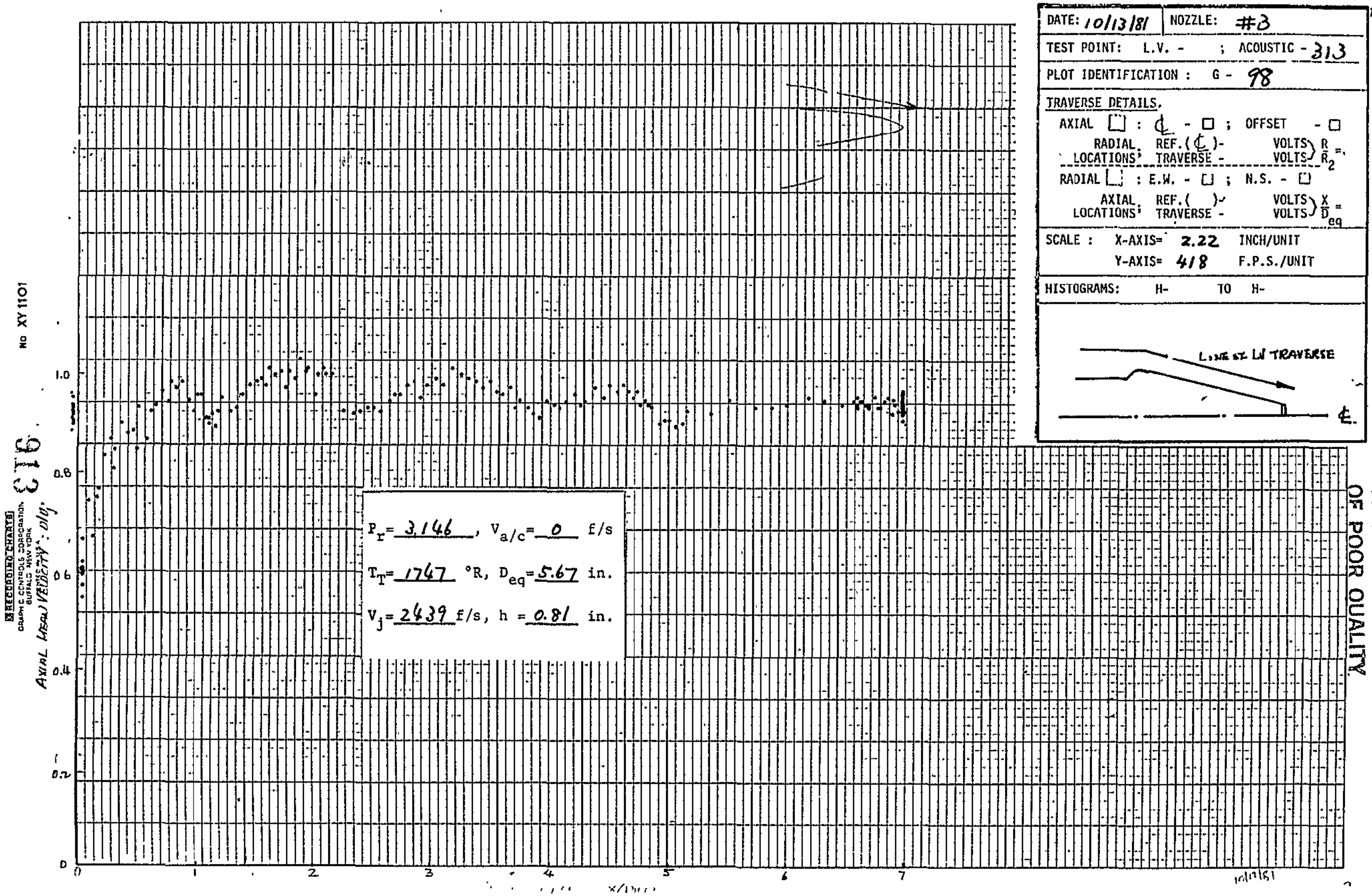
DATE: 10/13/81
NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313
PLOT IDENTIFICATION : G - 98
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS, REF.(℄)- TRAVERSE -
VOLTS / VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS, REF.( )- TRAVERSE -
VOLTS / VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.146 , Va/c= 0 f/s
TT= 1747 °R, Deq= 5.67 in.
Vj= 2439 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY : U/Uj
X/Deq
1.0
0.8
0.6
0.4
0.2
0
0
1
2
3
4
5
6
7
10/13/81
No XY 1101
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BUFFALO NEW YORK
313

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DATE: 10/13/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313	
PLOT IDENTIFICATION : G - 99	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

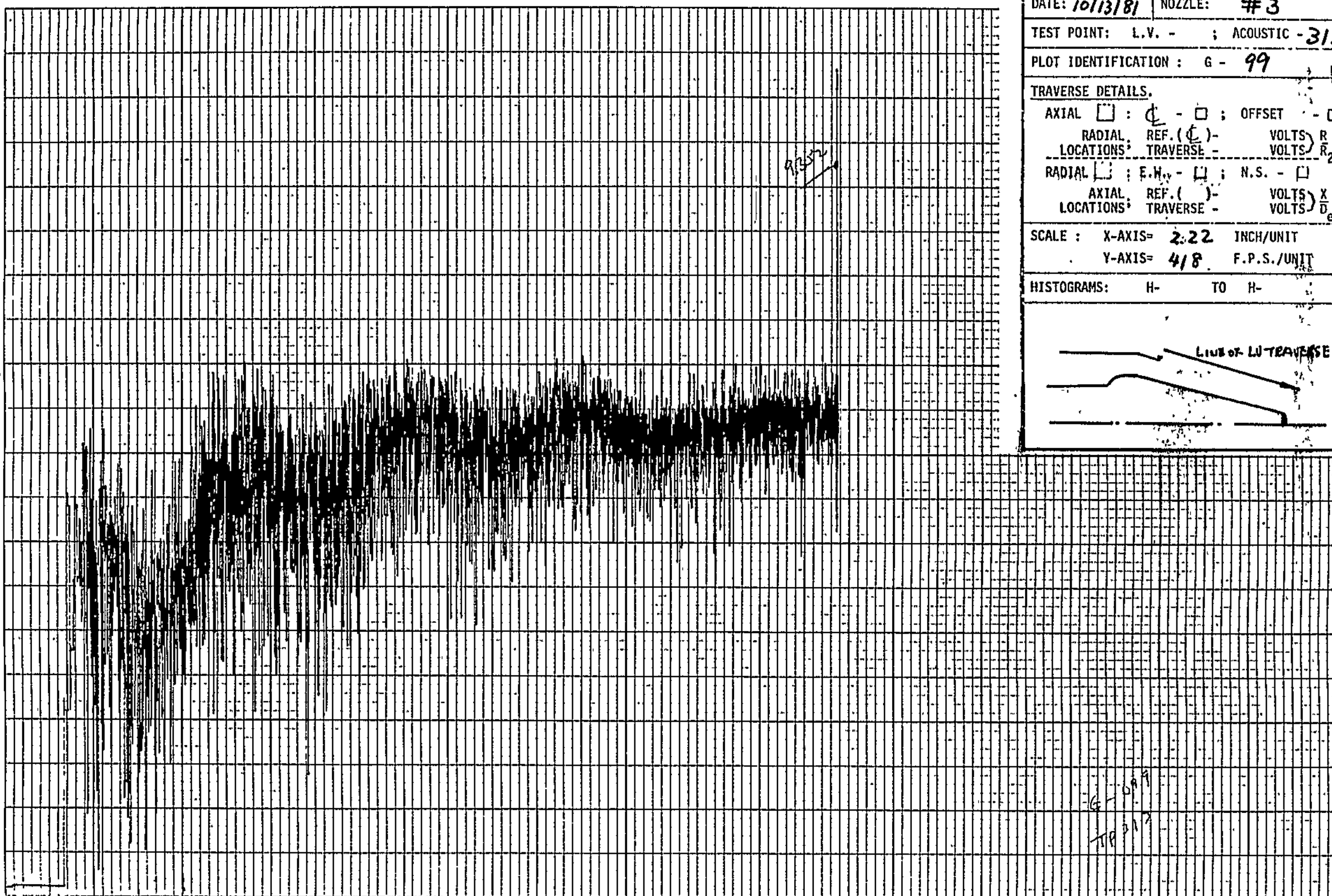
RADIAL ☐ ; E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

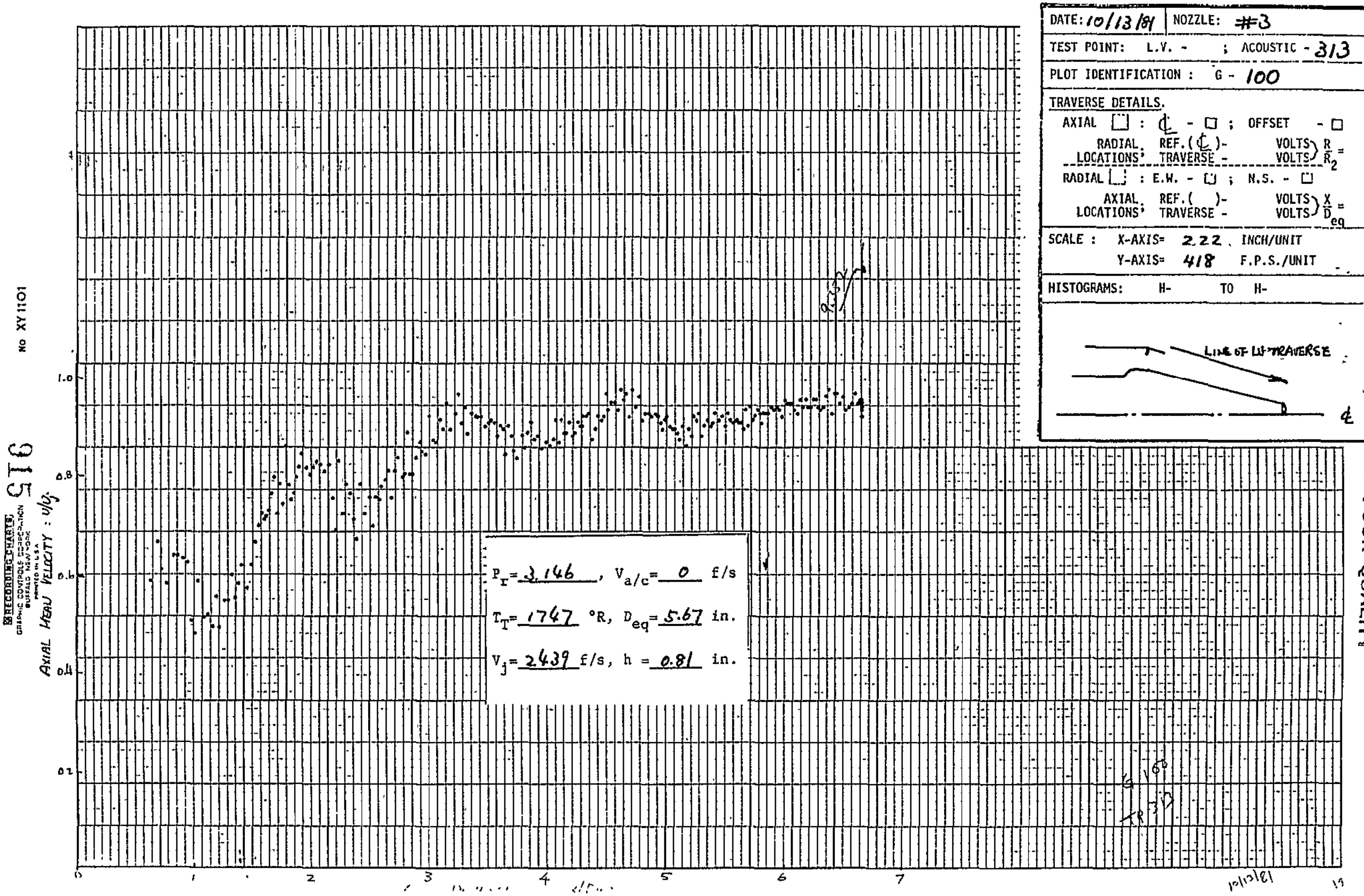
SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-



10/13/81


DATE: 10/13/81
NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313
PLOT IDENTIFICATION : G - 100
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.146 , Va/c= 0 f/s
TT= 1747 °R, Deq= 5.67 in.
Vj= 2439 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY : U/Uj
1.0
0.8
0.6
0.4
0.2
0
1
2
3
4
5
6
7
G 168
TR 313
10/13/81
No XY1101
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CT6

DATE: 10/13/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 313

PLOT IDENTIFICATION : G - 101

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

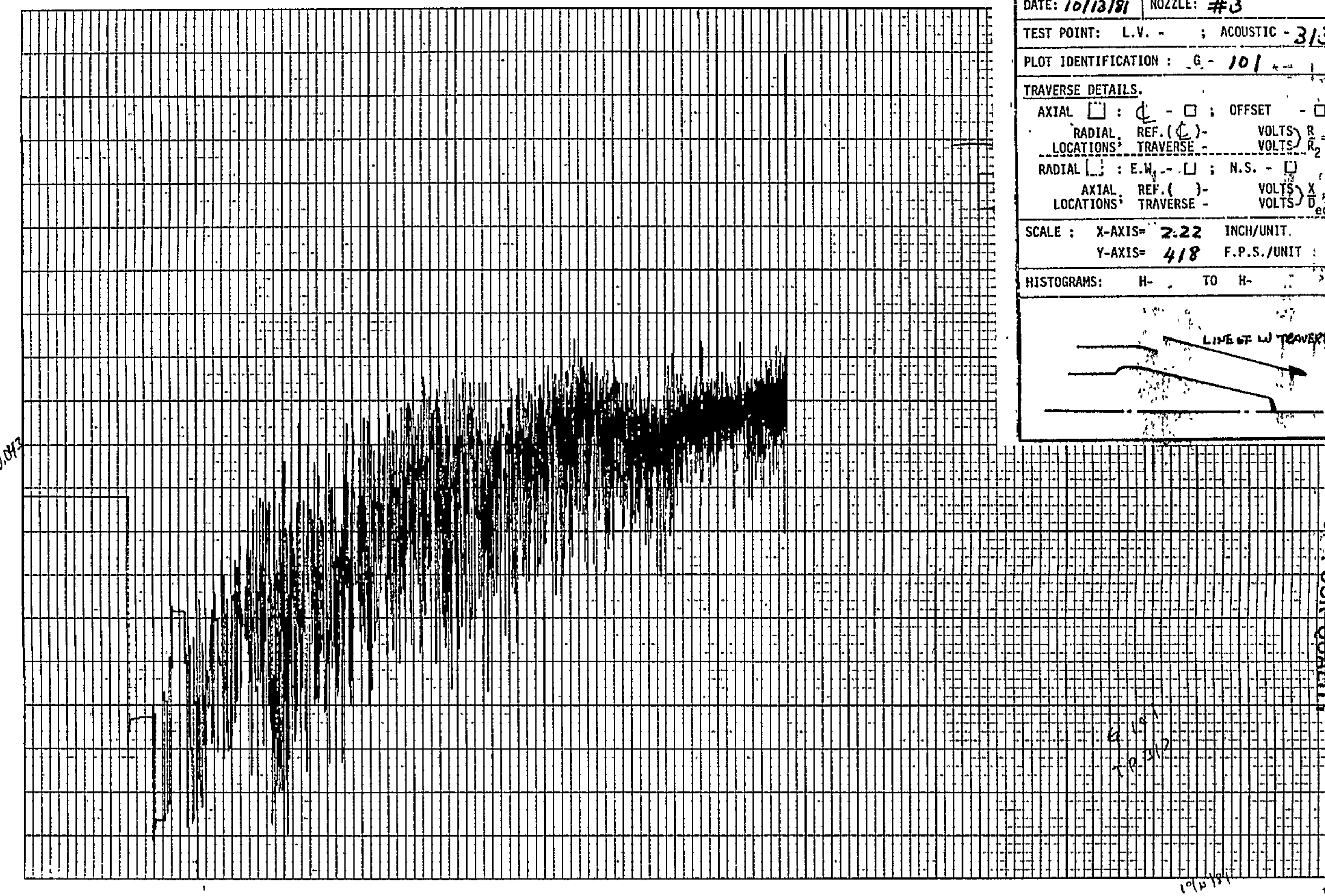
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT.

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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916 S0.0173

G-101 TP-313

10/13/81

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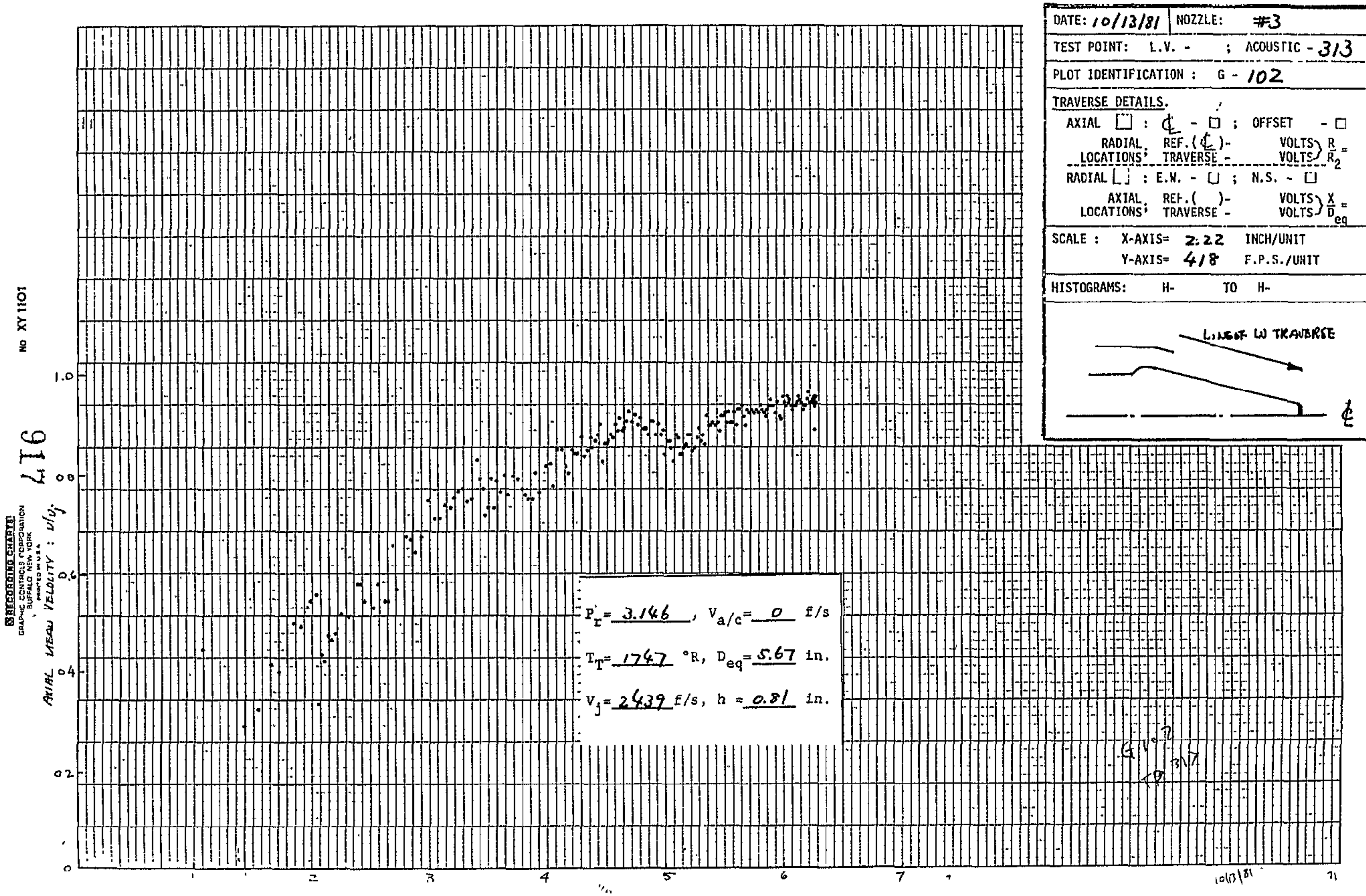
DATE: 10/13/81
NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313
PLOT IDENTIFICATION : G - 102
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINEST W TRAVERSE
℄
Pr = 3.146, Va/c = 0 f/s
TT = 1747 °R, Deq = 5.67 in.
Vj = 2439 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY : U/Uj
917
1.0
0.8
0.6
0.4
0.2
0
1
2
3
4
5
6
7
G102
TO 317
10/13/81

NO XY 1101

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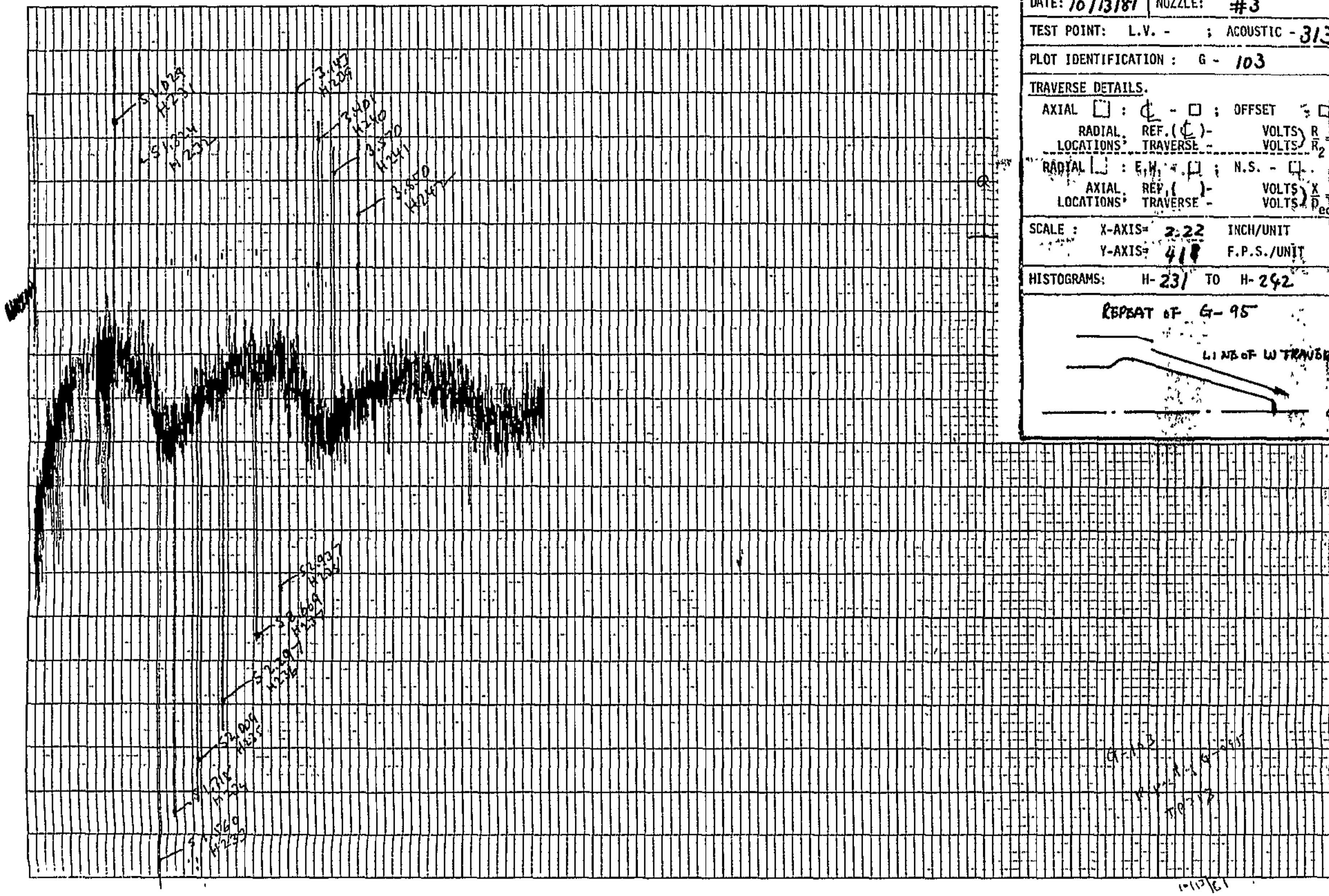

DATE: 10/13/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 313

PLOT IDENTIFICATION : G - 103

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS R/R_2

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS X/D_{eq}

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H-231 TO H-242

REPEAT OF G-95

LINE OF W TRAVERSE

℄

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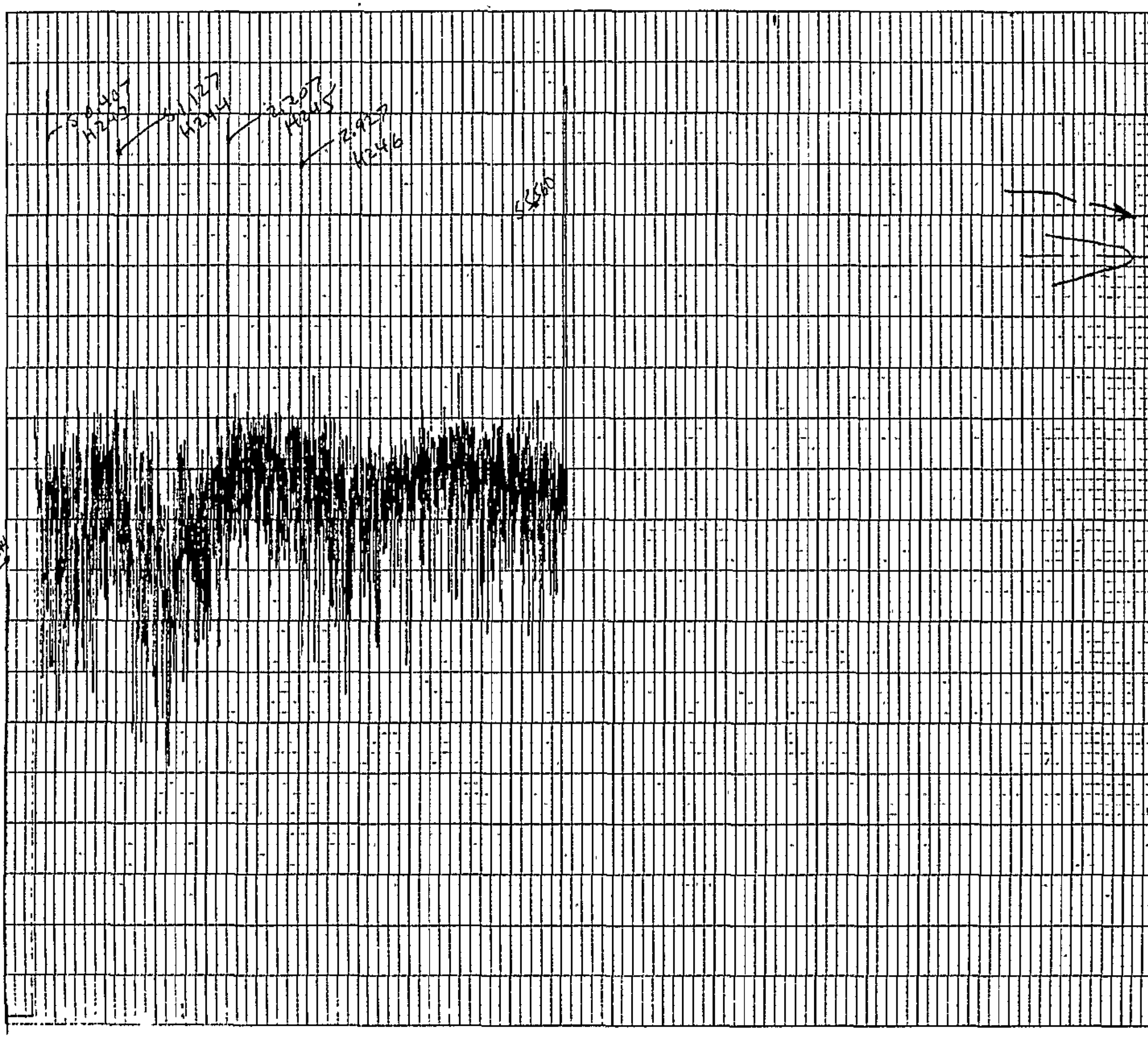
No. XY 1101



DATE: 10/13/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313	
PLOT IDENTIFICATION : G - 104	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- 243 TO H- 246

REPEAT OF G-18

LINE OF LV TRAVERSE

℄

919

5.004

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G104 Repeat G-18 TP 312

10/13/81

DATE: 10/13/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 313

PLOT IDENTIFICATION: 105

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2} = 0$

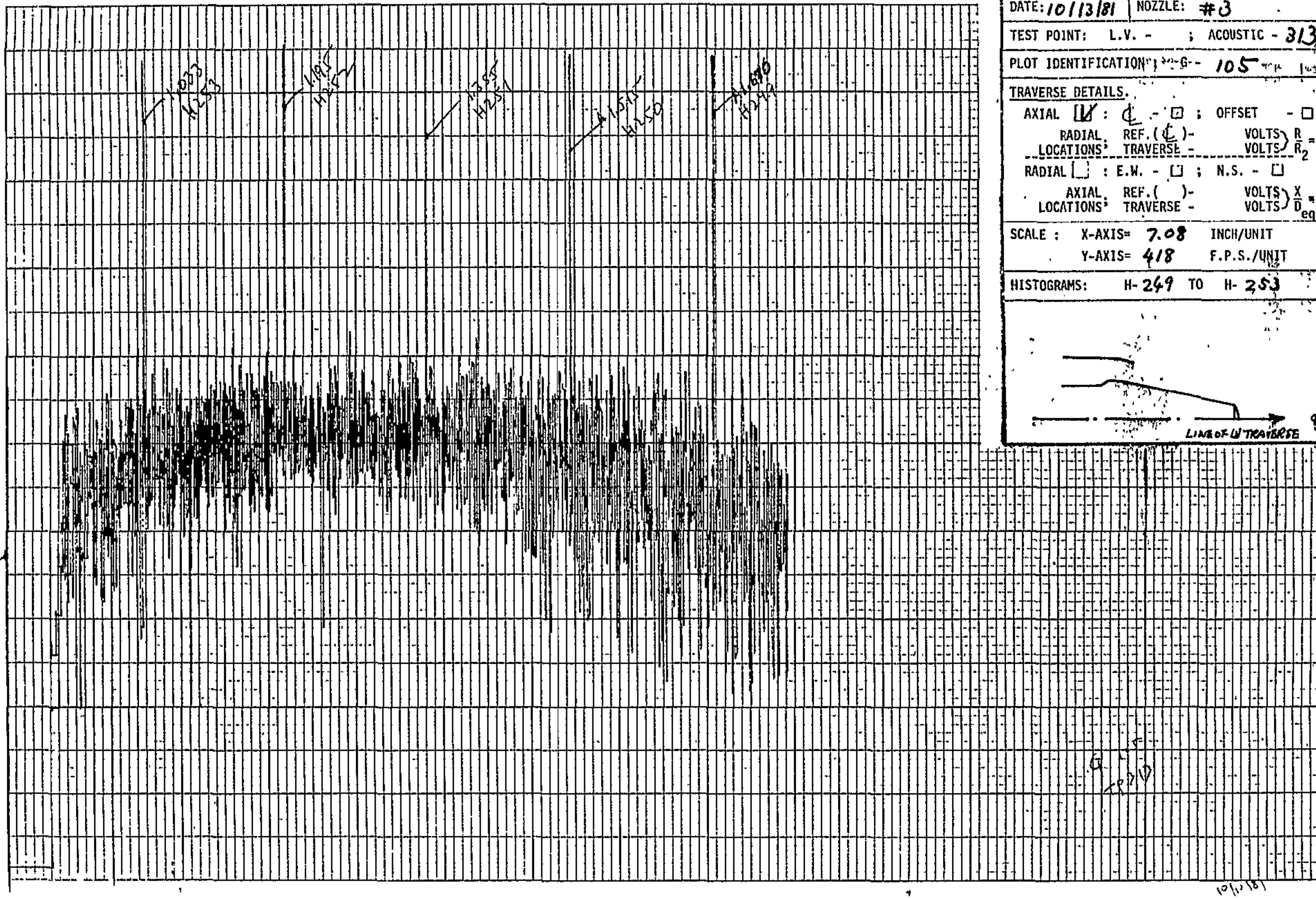
RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- 249 TO H- 253



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026

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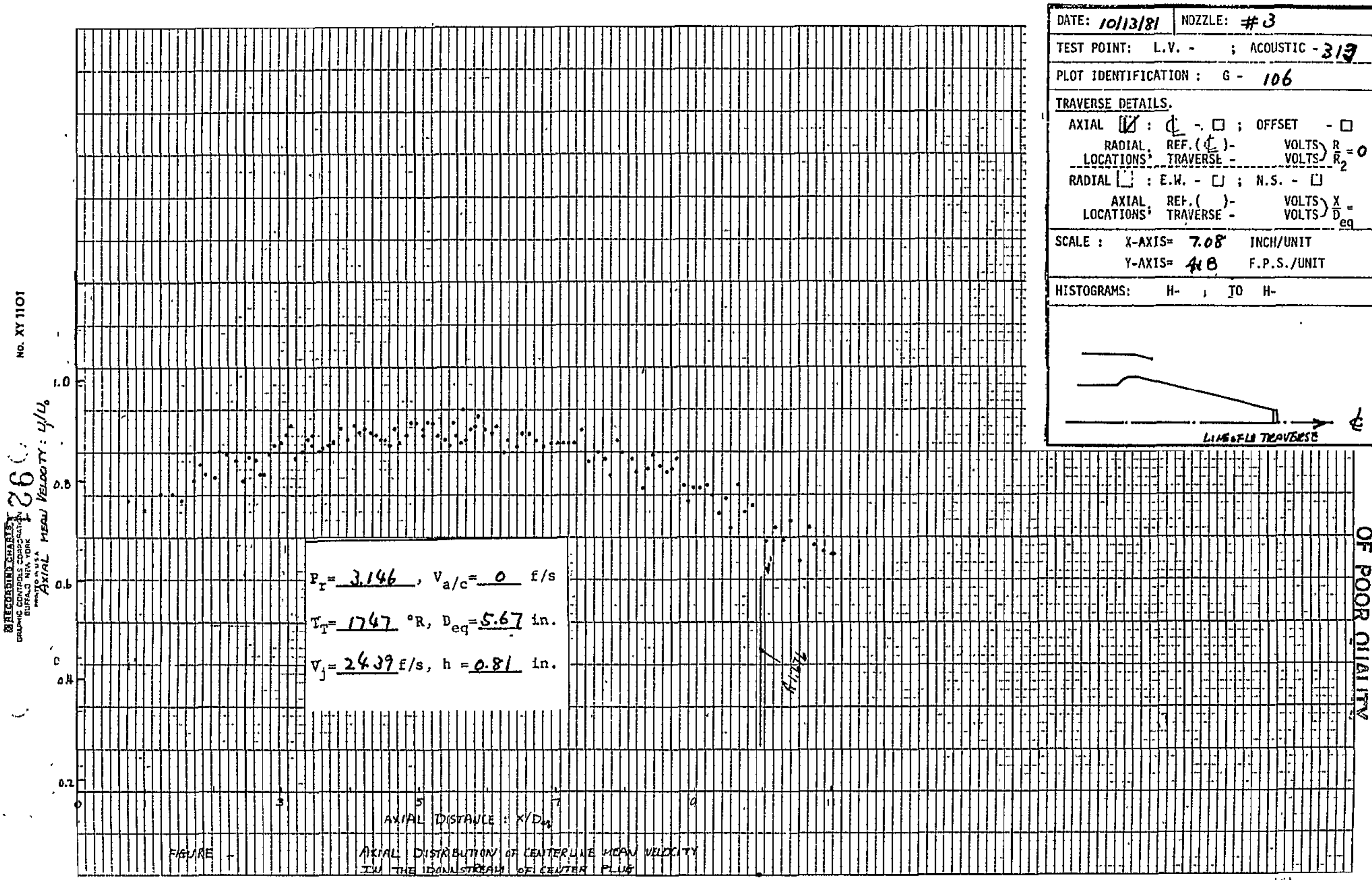
DATE: 10/13/81
NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313
PLOT IDENTIFICATION : G - 106
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 = 0
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT
HISTOGRAMS: H- , TO H-
LINE OF LV TRAVERSE
Pr= 3.146 , Va/c= 0 f/s
TT= 1747 °R, Deq= 5.67 in.
Vj= 2439 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY : U/U0
1.0
0.8
0.6
0.4
0.2
0
3
5
7
9
11
AXIAL DISTANCE : X/Dh
NO. XY 1101
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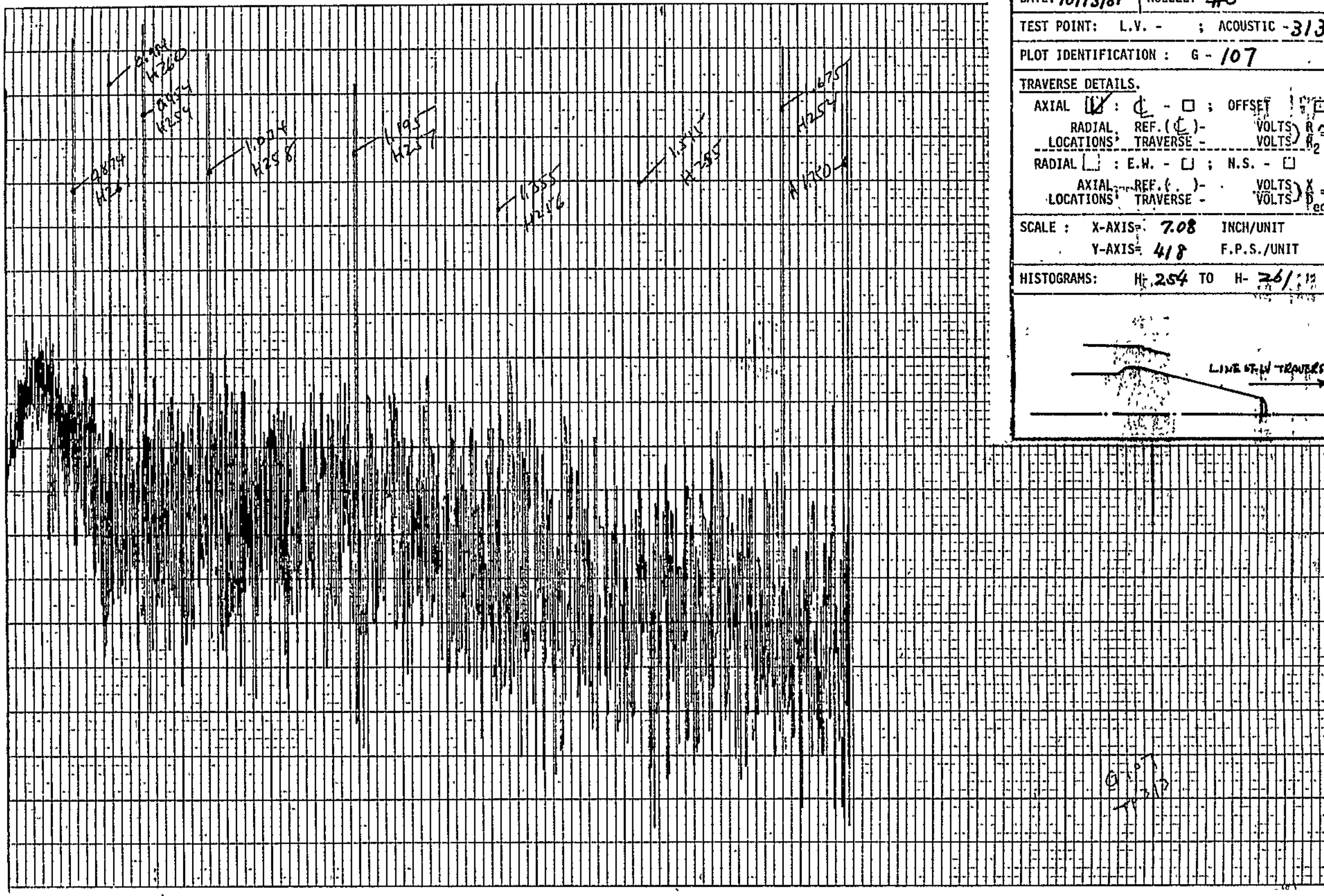
FIGURE -
AXIAL DISTRIBUTION OF CENTERLINE MEAN VELOCITY IN THE DOWNSTREAM OF CENTER PLUG



DATE: 10/13/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 313

PLOT IDENTIFICATION : G - 107

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET ☐

RADIAL LOCATIONS REF. (℄)- TRAVERSE - VOLTS/VOLTS $R/R_2 \simeq 1$

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS REF. ( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H-254 TO H-261

LINE OF TRAVERSE

No XY 1101

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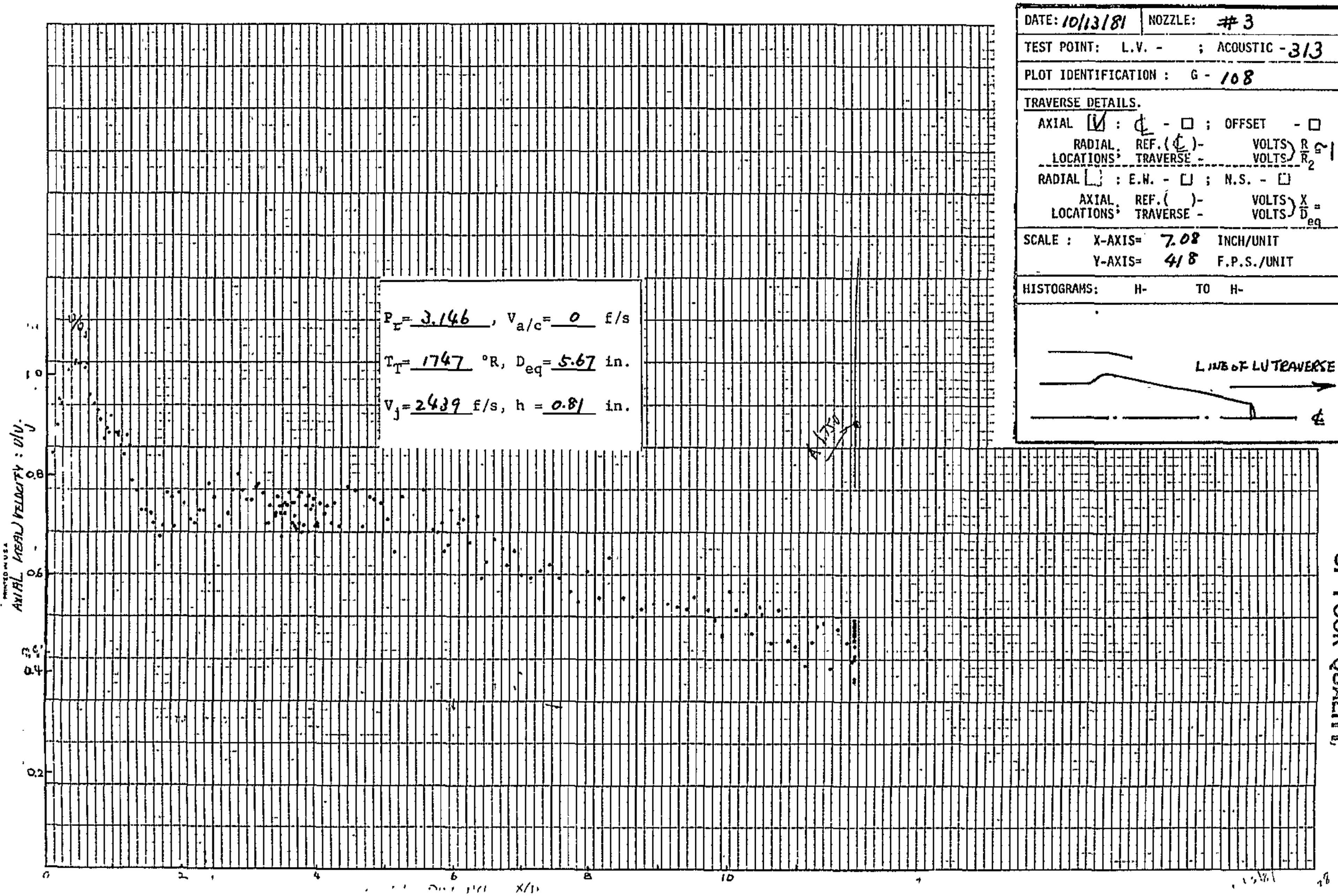

326

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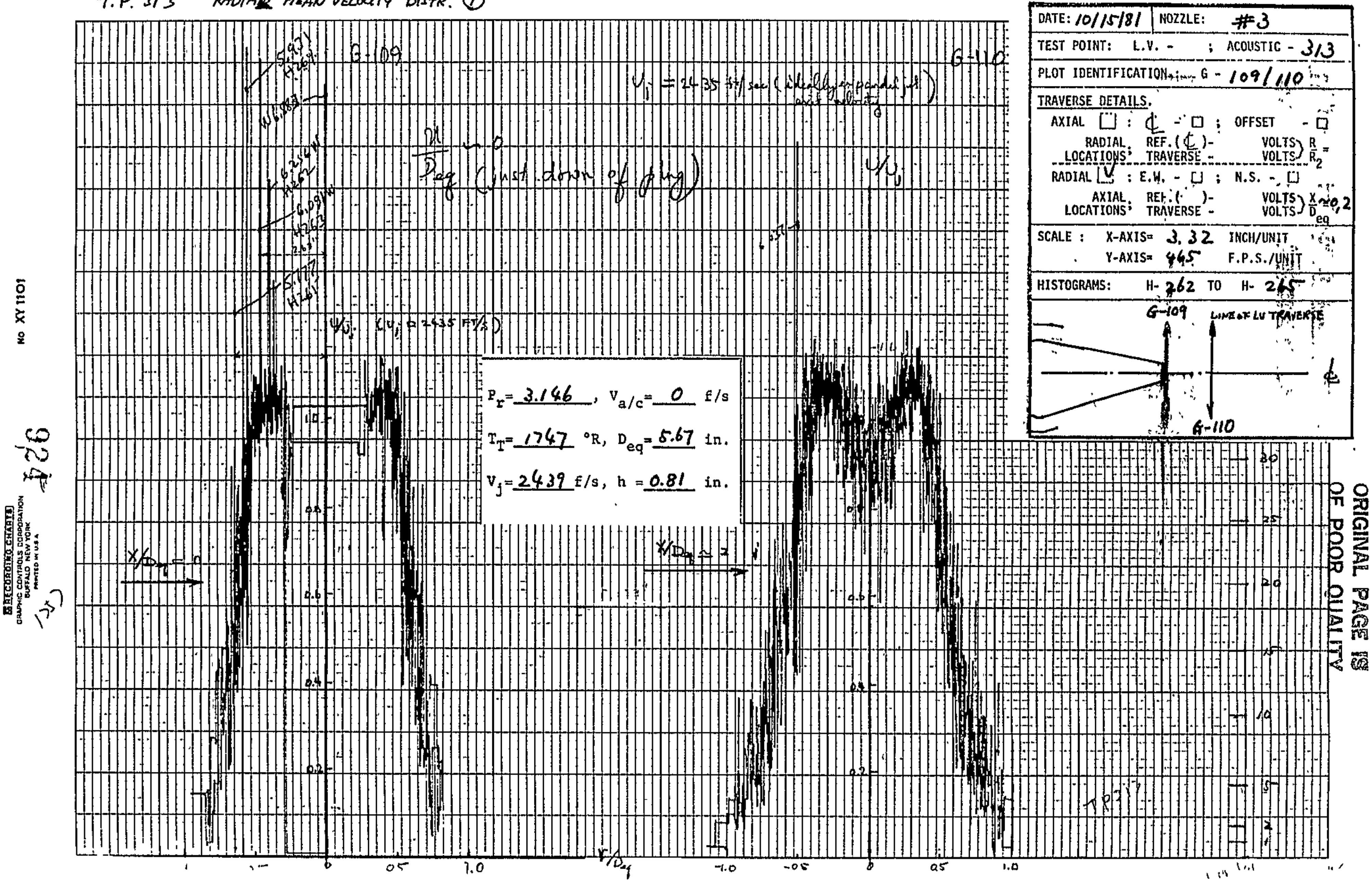
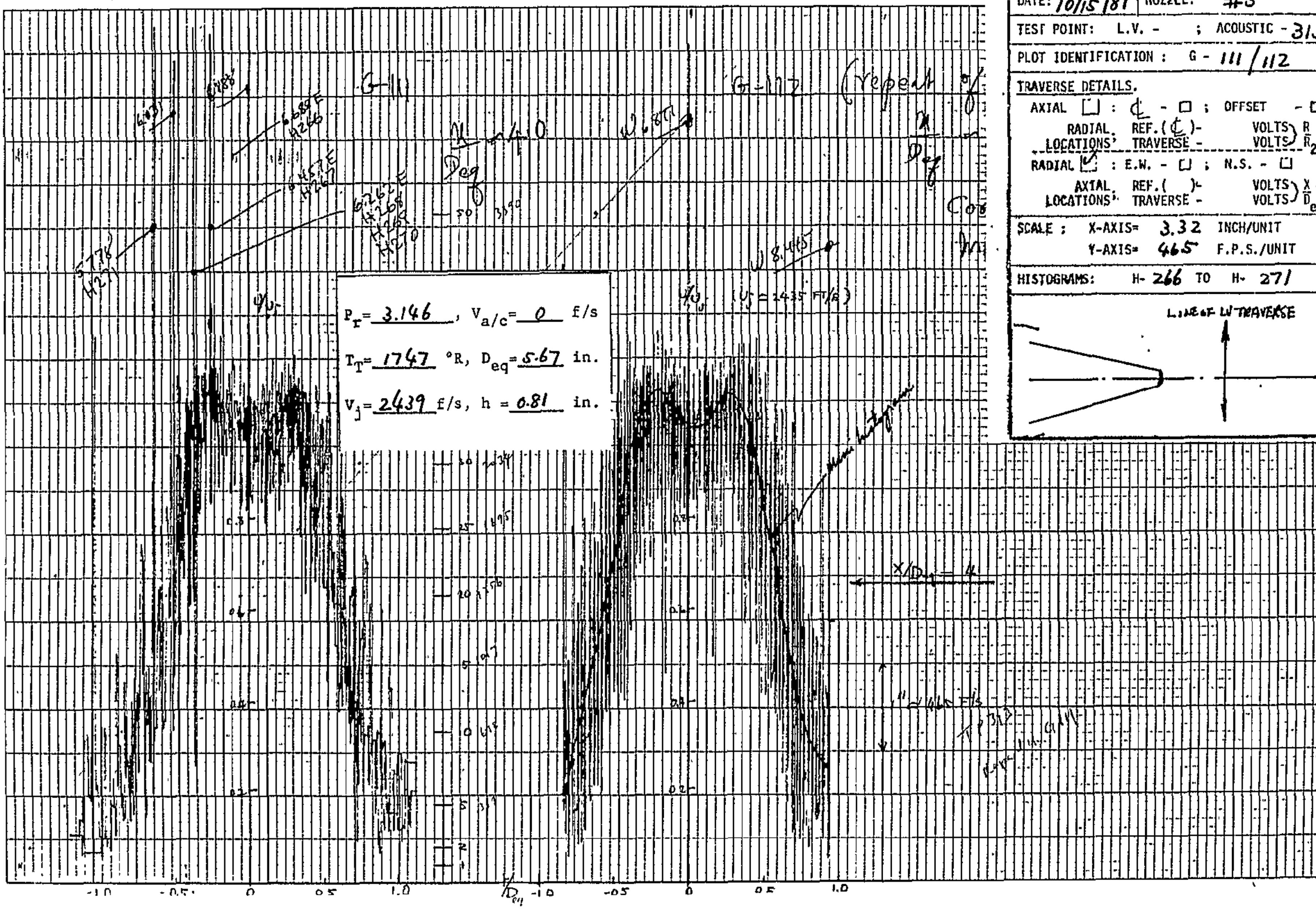
T.P. 313 RADIAL MEAN VELOCITY DISTR. 1



T.P. 313 RADIAL MEAN VELOCITY DISTRIB. (2)



DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313	
PLOT IDENTIFICATION : G - 111/112	
TRAVERSE DETAILS.	
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐	
RADIAL LOCATIONS: REF.(℄)- TRAVERSE -	VOLTS / VOLTS $\frac{R}{R_2}$ =
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐	
AXIAL LOCATIONS: REF.( )- TRAVERSE -	VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 4
SCALE : X-AXIS= 3.32 INCH/UNIT	Y-AXIS= 465 F.P.S./UNIT
HISTOGRAMS: H- 266 TO H- 271	

LINE OF LV TRAVERSE

℄

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T.P. 313 RADIAL MEAN VELOCITY DISTRIB. (2A)

DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313	
PLOT IDENTIFICATION : G - 113	

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - [ ] ; OFFSET - [ ]

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

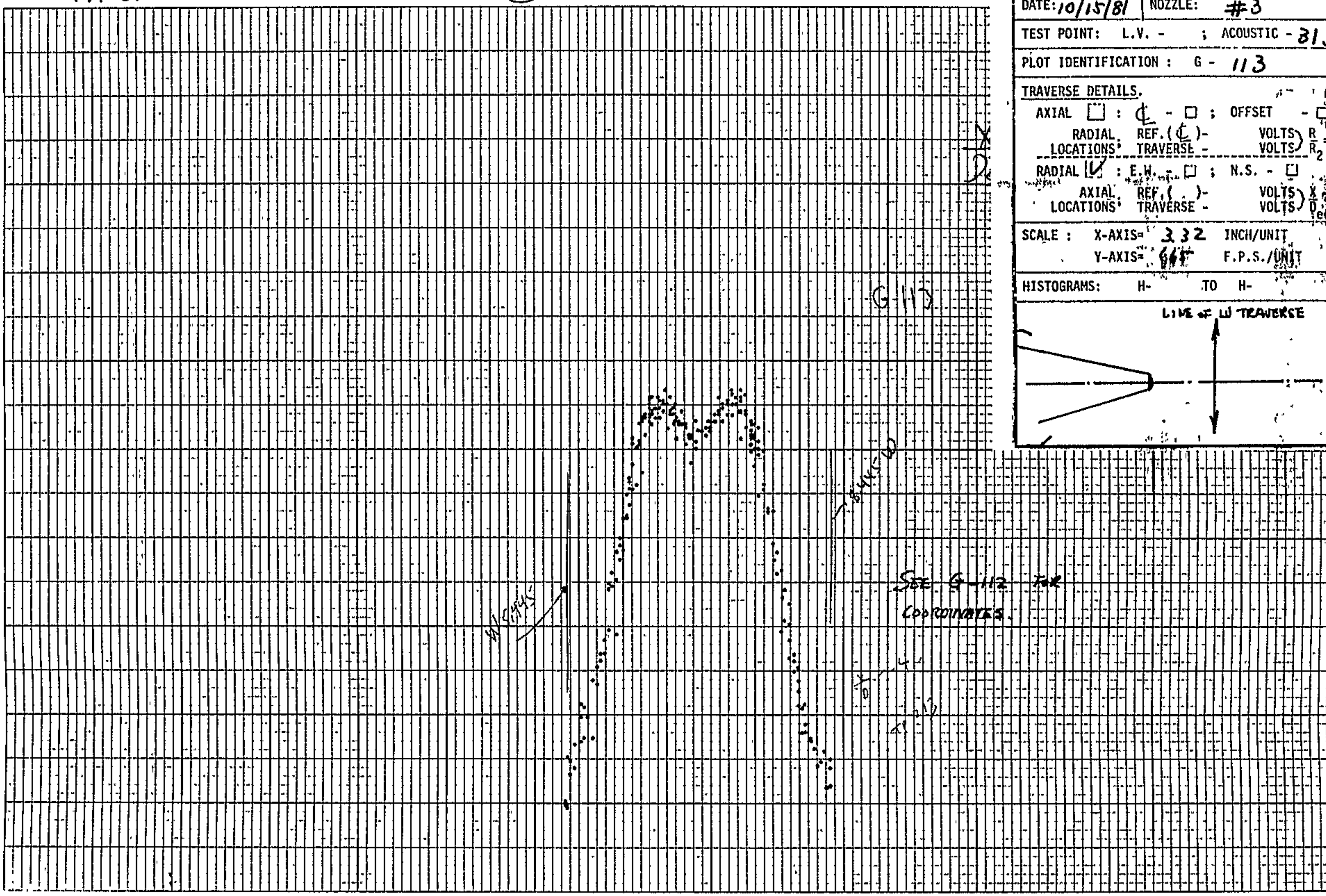
RADIAL [✓] : E.W. - [ ] ; N.S. - [ ]

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ = 4

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 645 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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T.P. 313 RADIAL MEAN VELOCITY DISTRIB. 3

DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313	
PLOT IDENTIFICATION : G - 114	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 465 F.P.S./UNIT

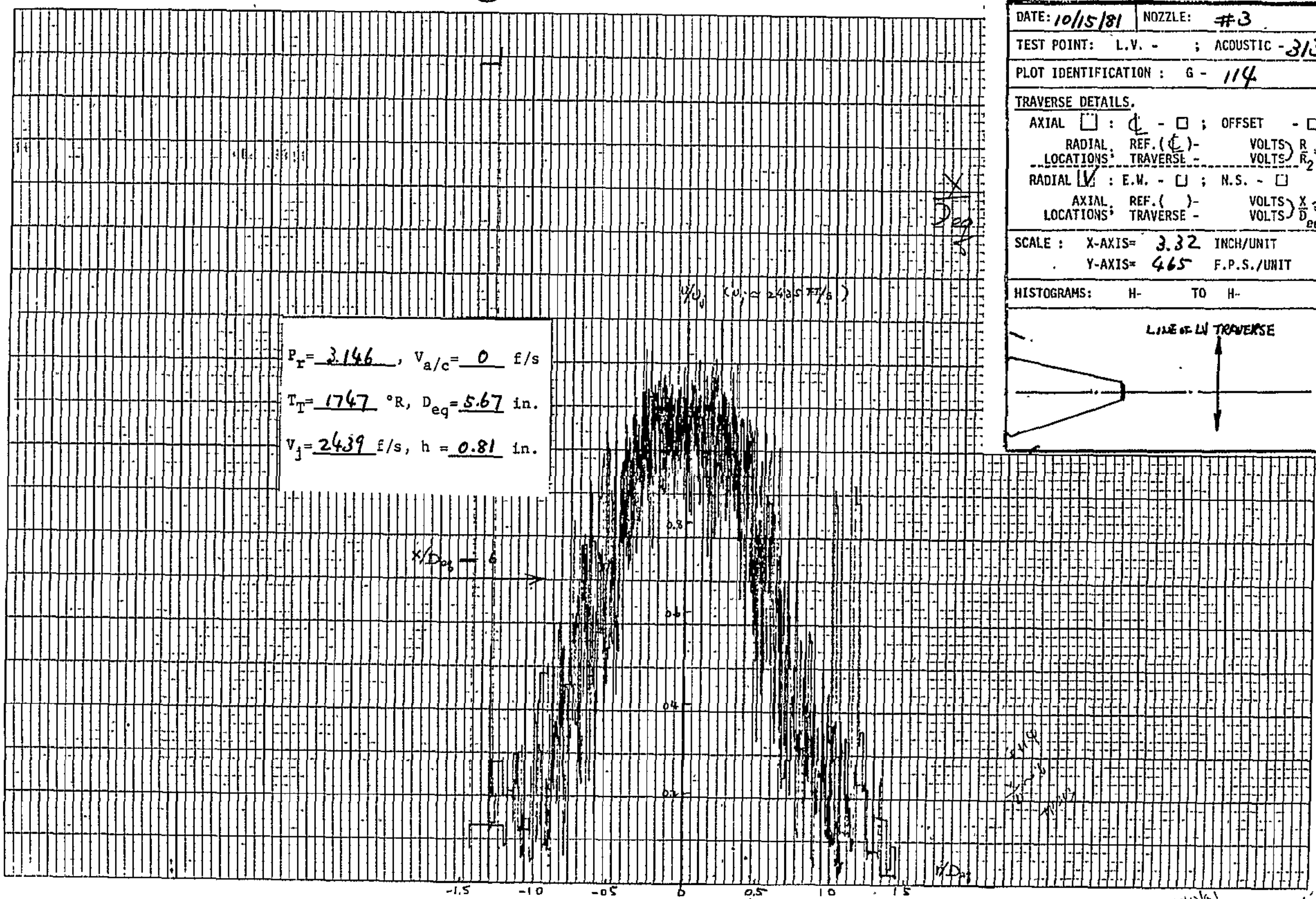
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

P_r = 3.146, $V_{a/c}$ = 0 f/s

T_T = 1747 °R, D_{eq} = 5.67 in.

V_j = 2439 f/s, h = 0.81 in.



426

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T.P. 313 RADIAL MEAN VELOCITY DISTRIB. ④

DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 313	
PLOT IDENTIFICATION : G - 115	

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - [ ] ; OFFSET - [ ]

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS VOLTS } R/R2 =

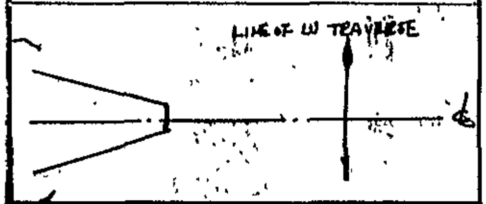
RADIAL [V] : E.H. - [ ] ; N.S. - [ ]

AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS VOLTS } X/Deq = 8

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 465 F.P.S./UNIT

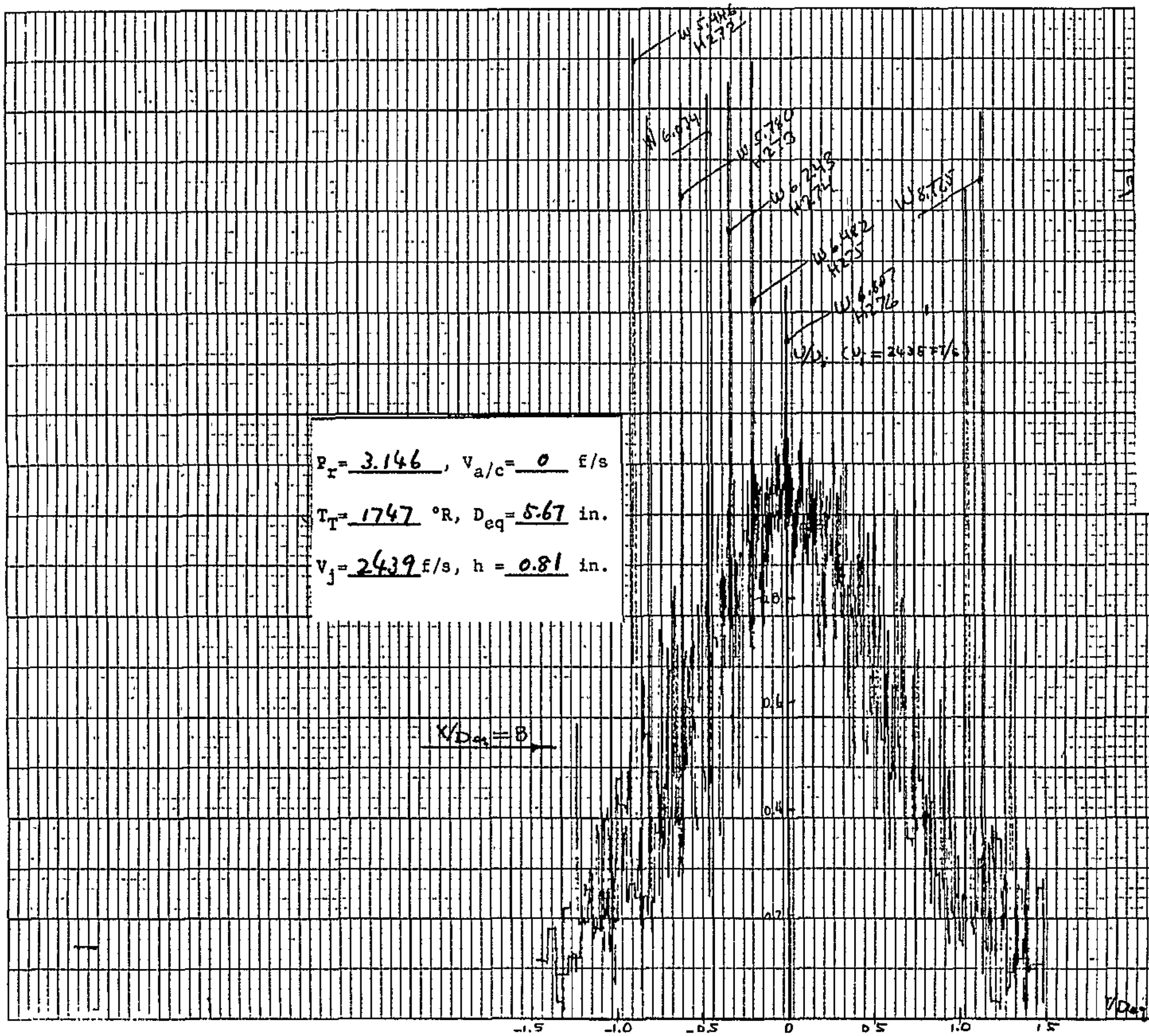
HISTOGRAMS: H- 272 TO H- 276



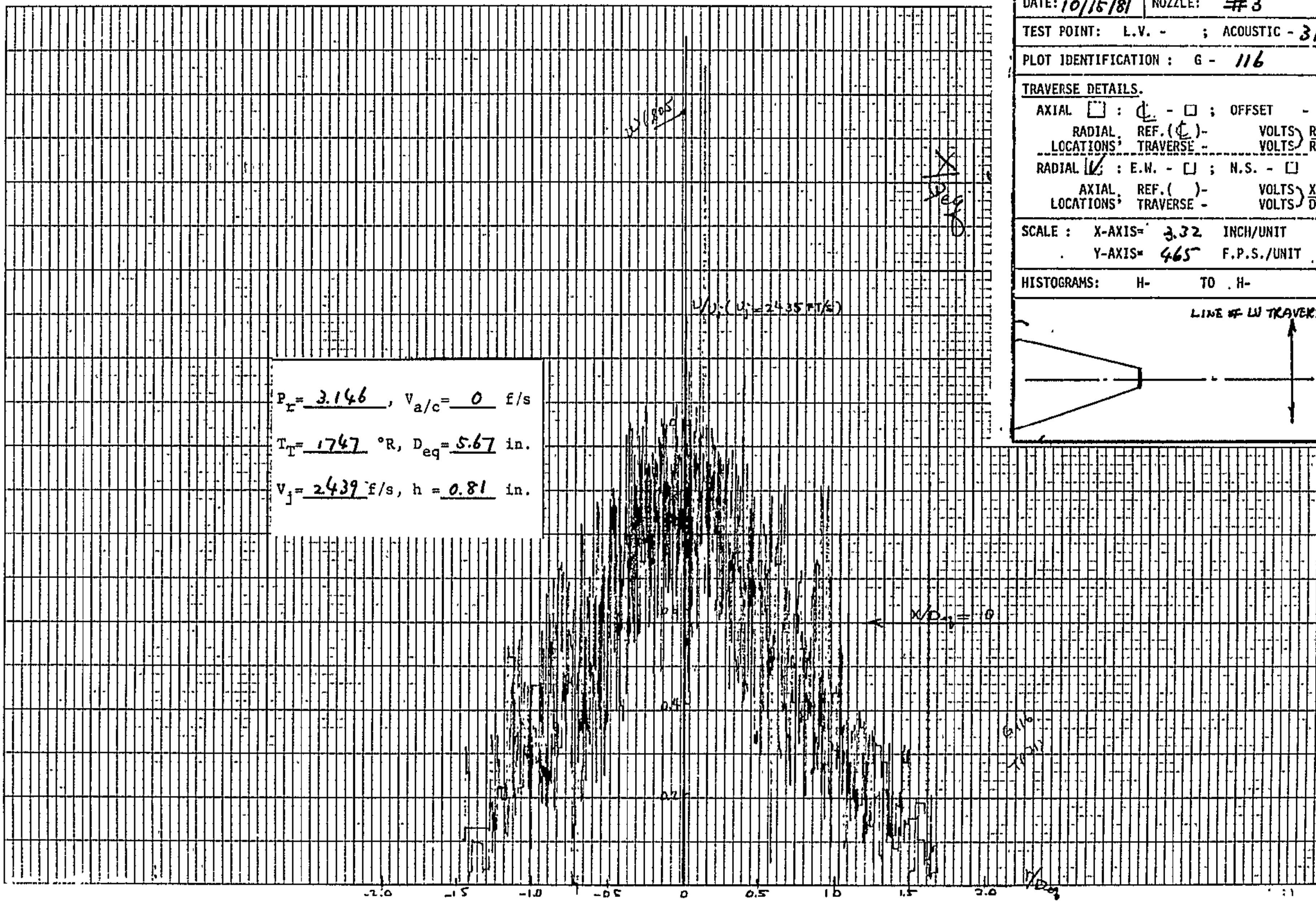
P_r = 3.146, $V_{a/c}$ = 0 f/s

T_T = 1747 °R, D_{eq} = 5.67 in.

V_j = 2439 f/s, h = 0.81 in.



T. P. 313 RADIAL DISTRIB. OF MEAN VELOCITY (5)



P_r = 3.146, $V_{a/c}$ = 0 f/s

T_T = 1747 °R, D_{eq} = 5.67 in.

V_j = 2439 f/s, h = 0.81 in.

DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 313

PLOT IDENTIFICATION : G - 116

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS R/R_2 =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS X/D_{eq} ≃ 10

SCALE : X-AXIS = 3.32 INCH/UNIT

Y-AXIS = 465 F.P.S./UNIT

HISTOGRAMS: H- TO . H-

LINE OF LV TRAVERSE

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T.P. 321 RADIAL DISTR. OF MEAN VELOCITY ①

DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 117/118

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

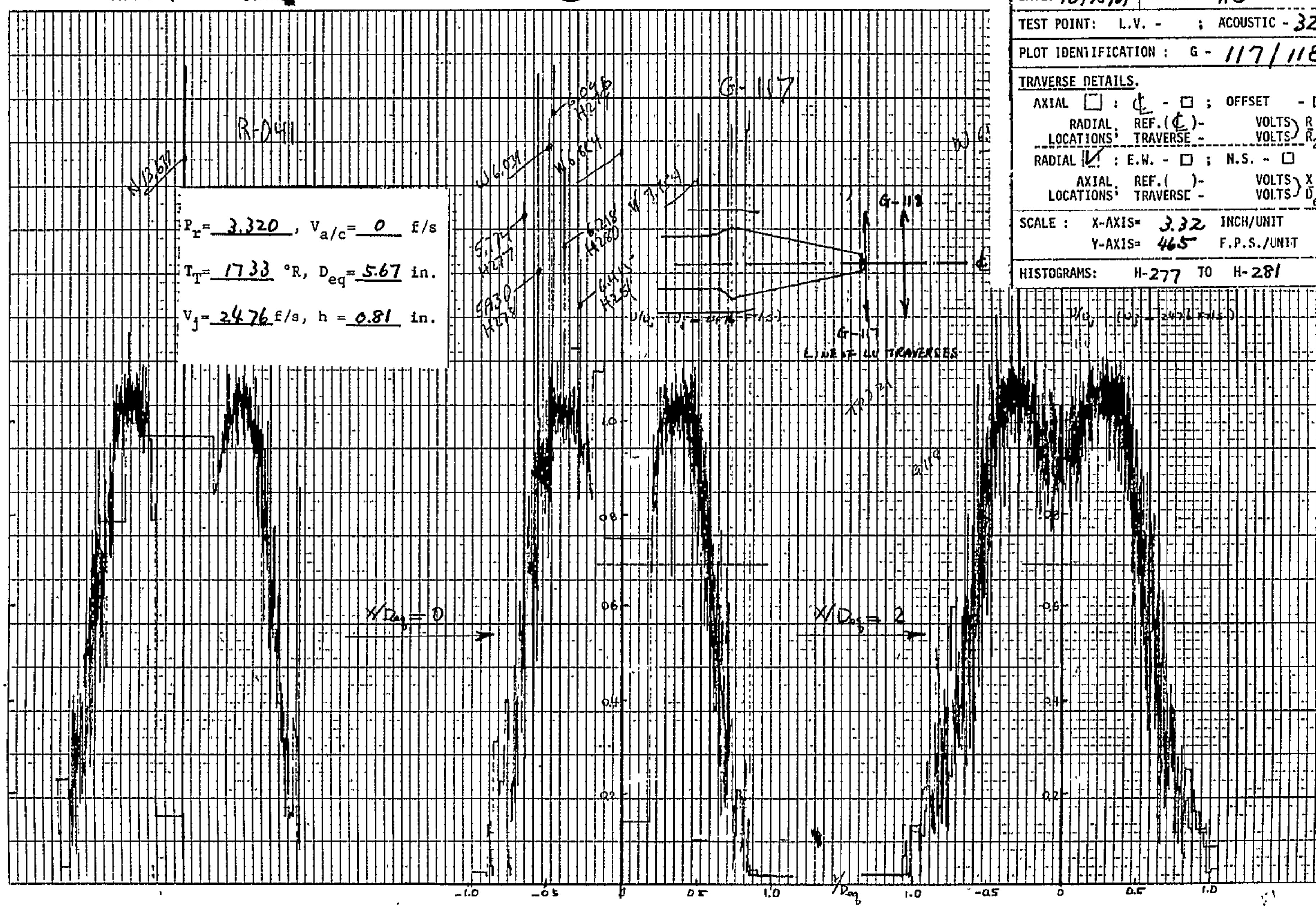
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ = 0,2

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 465 F.P.S./UNIT

HISTOGRAMS: H-277 TO H-281



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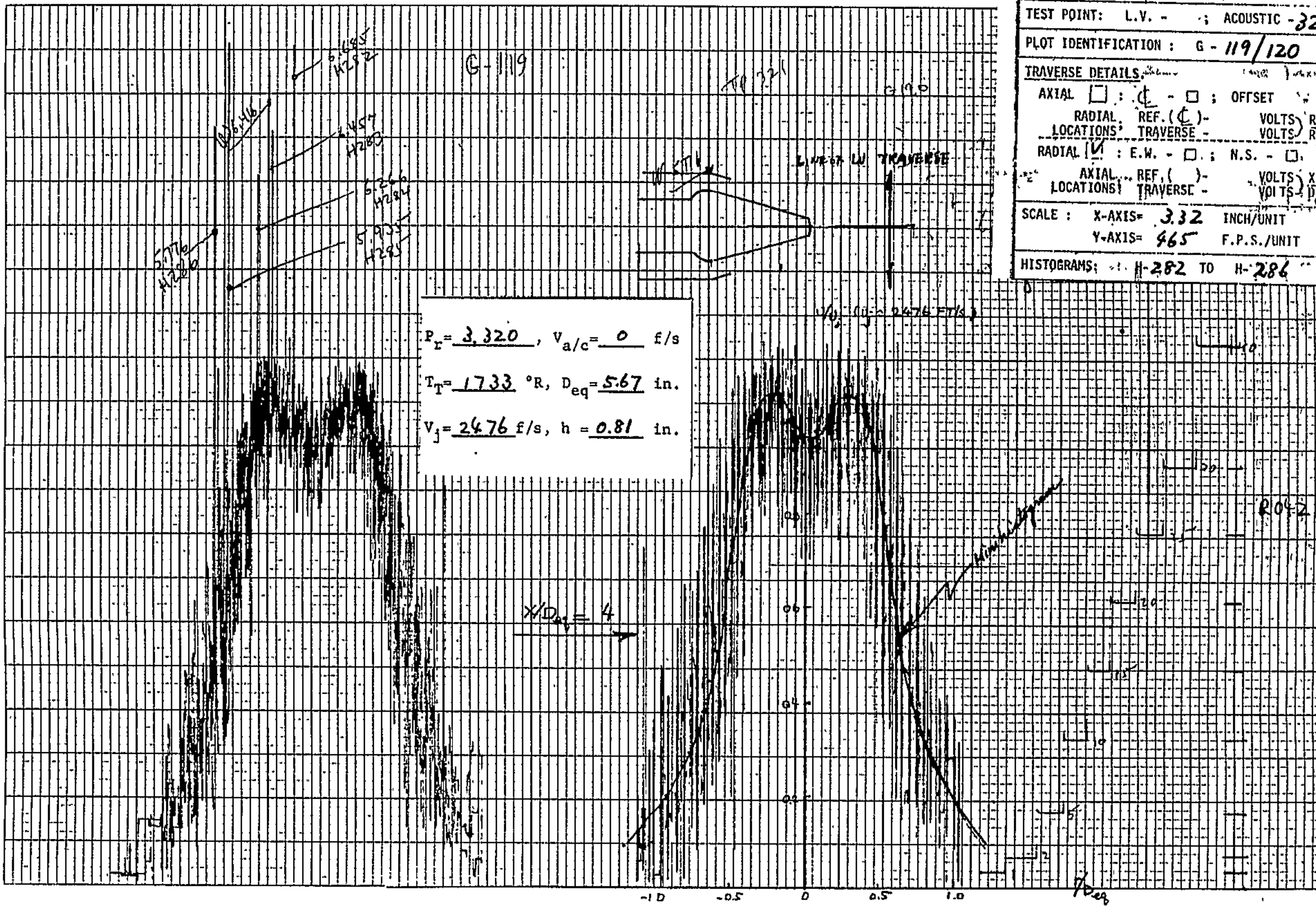
T.P. 321 RADIAL DISTR. OF MEAN VELOCITY (2)



DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 119/120

TRAVERSE DETAILS:

AXIAL ☐ ; ℄ - ☐ ; OFFSET ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS R/R_2 =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS X/D_{eq} = 4

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 465 F.P.S./UNIT

HISTOGRAMS: H-282 TO H-286

NO. XY 1101

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DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 121

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS / TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

RADIAL ✓ : E.W. - ☐ ; N.S. - ☐

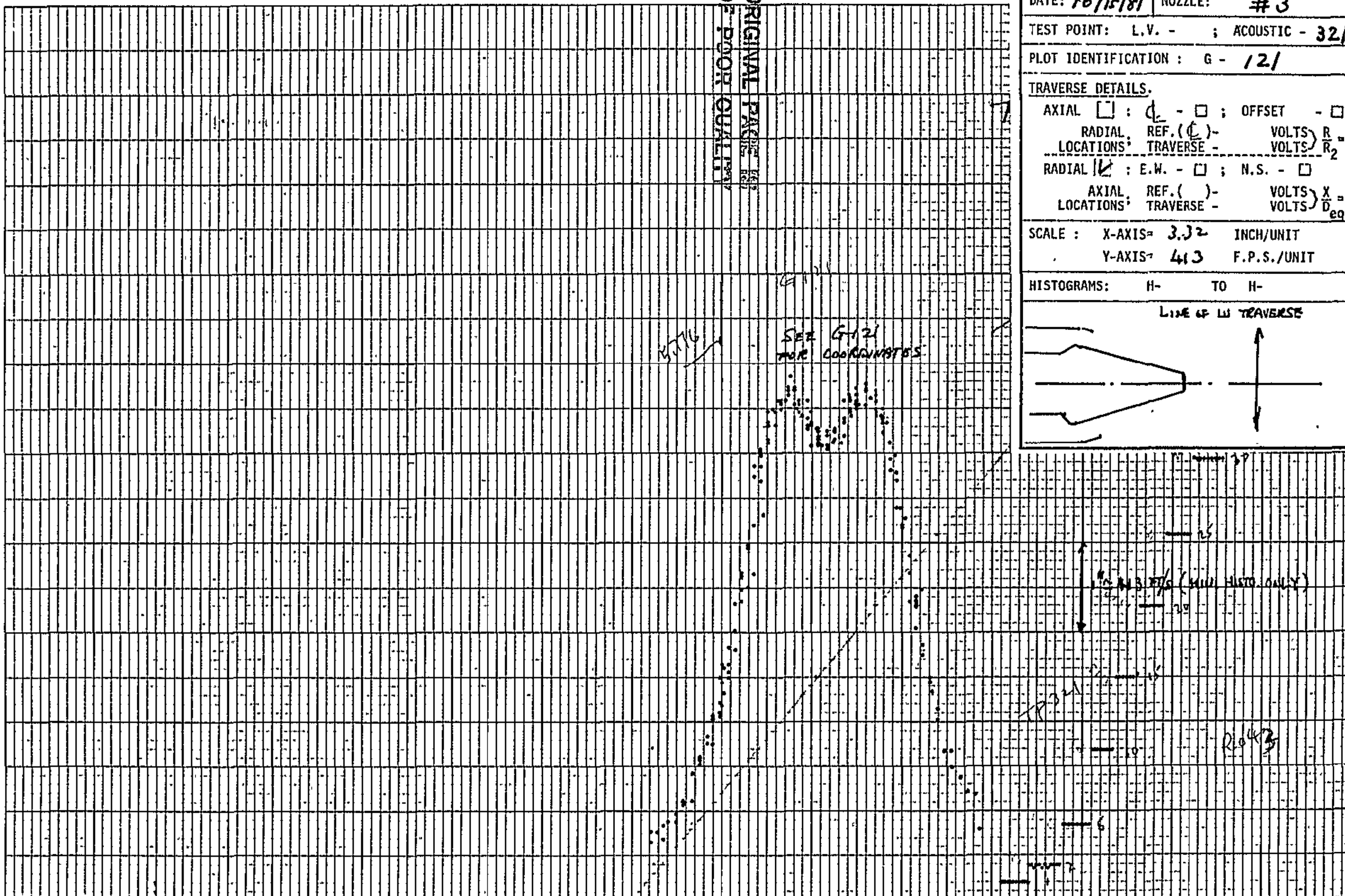
AXIAL LOCATIONS: REF.( )- VOLTS / TRAVERSE - VOLTS } $\frac{X}{D_{eq}}$ = 4

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE



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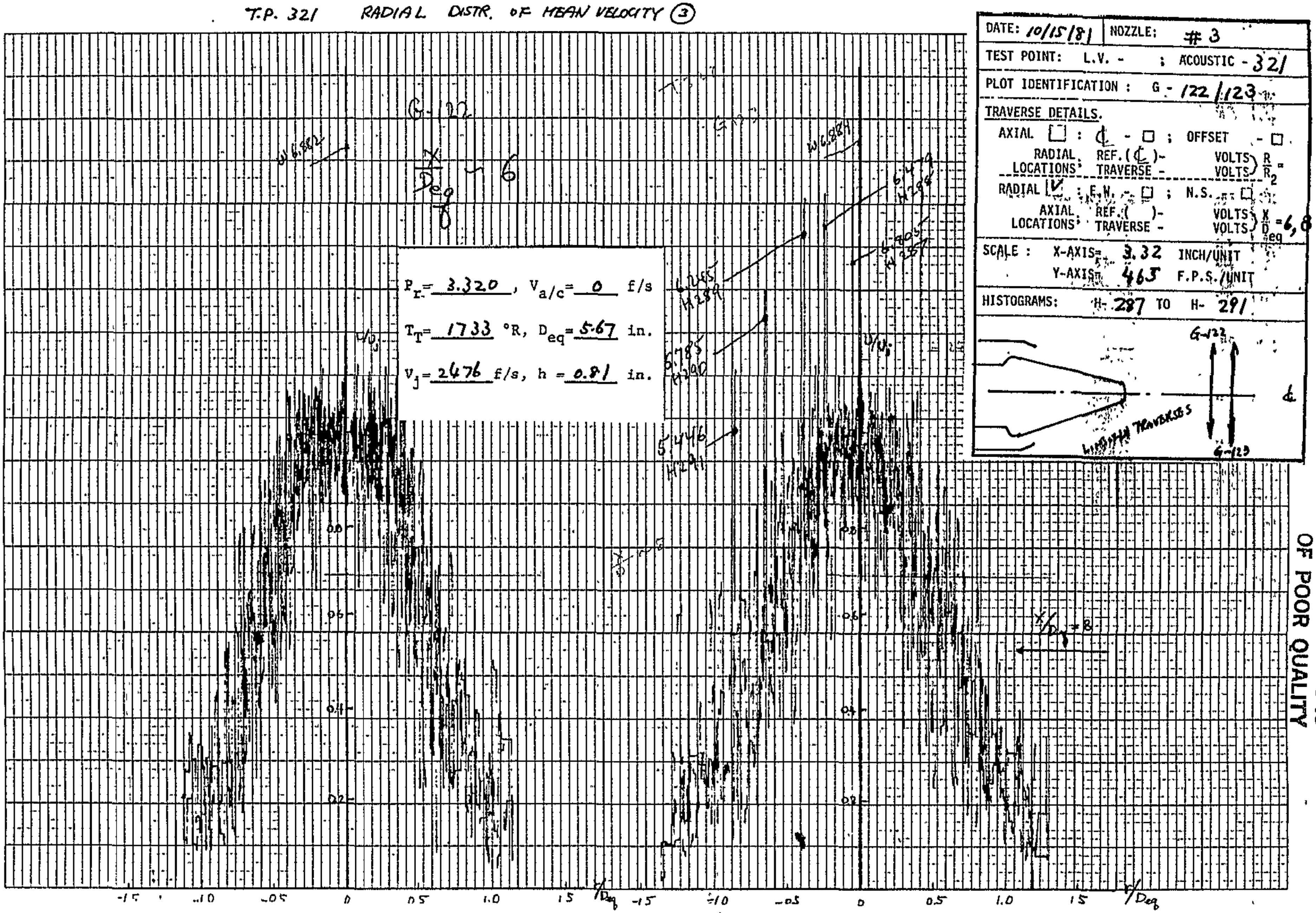
T.P. 321 RADIAL DISTR. OF MEAN VELOCITY (3)



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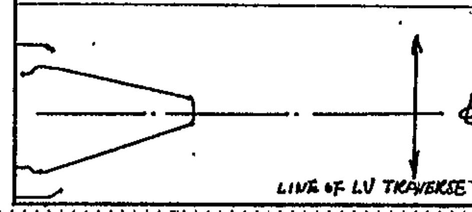
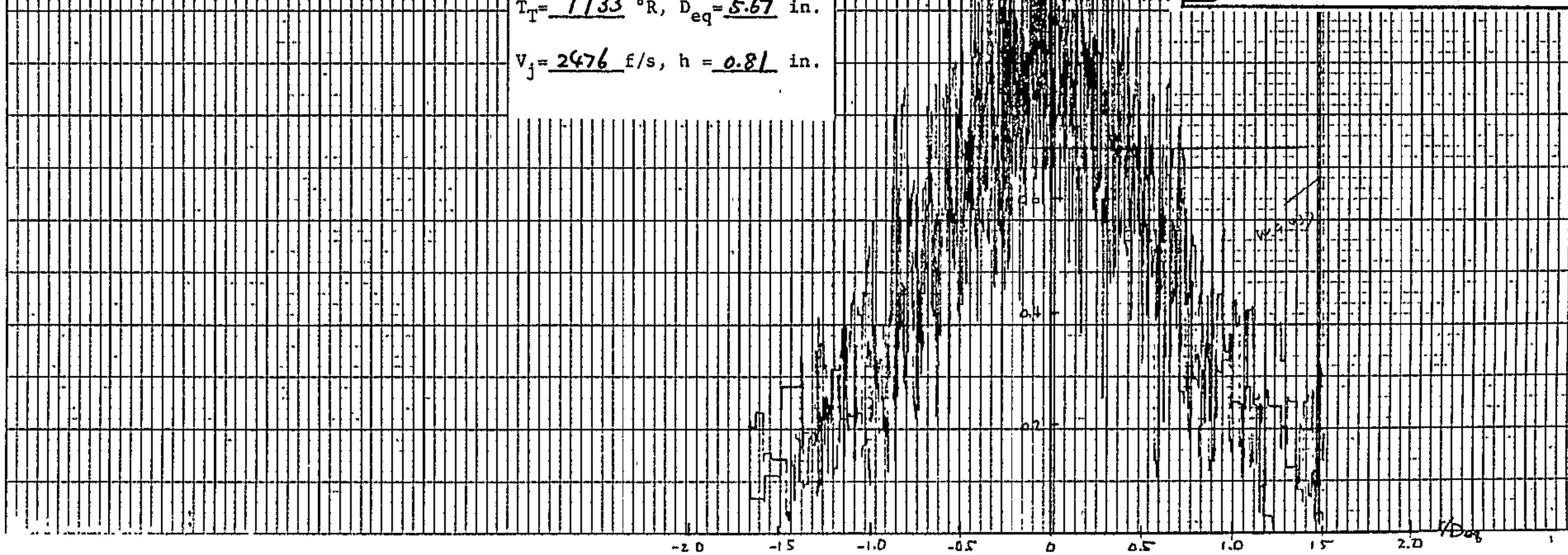
T.P. 321 RADIAL DISTR. OF MEAN VELOCITY ④

DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 321	
PLOT IDENTIFICATION : G - 124	
TRAVERSE DETAILS. AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐ RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =	
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐ AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 10	
SCALE : X-AXIS= 3.32 INCH/UNIT Y-AXIS= 465 F.P.S./UNIT	
HISTOGRAMS: H- TO H-	





NO XY 1101

935

DATE: 10/15/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 125

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $R/R_2 = 0$

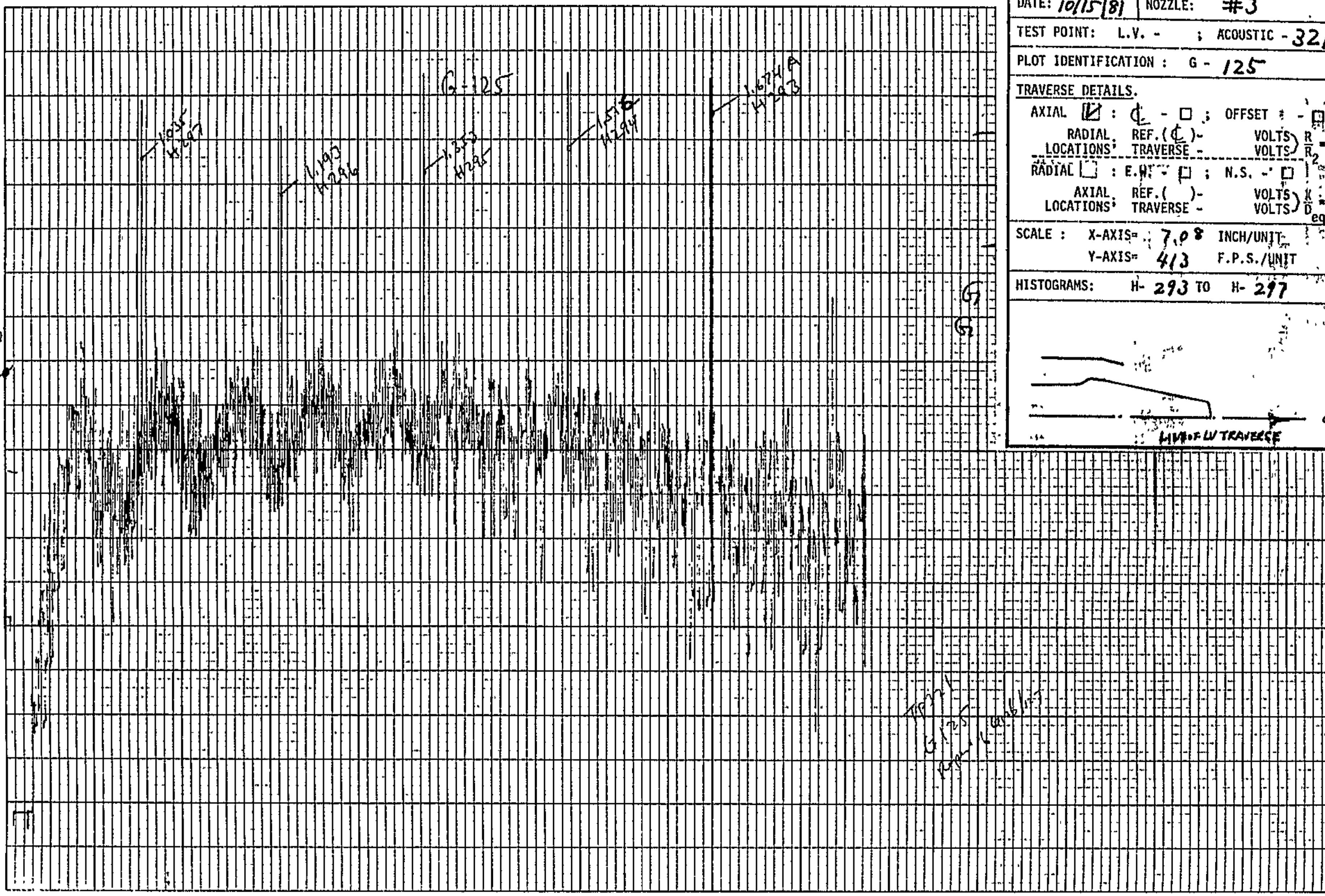
RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $X/D_{eq} =$

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- 293 TO H- 297



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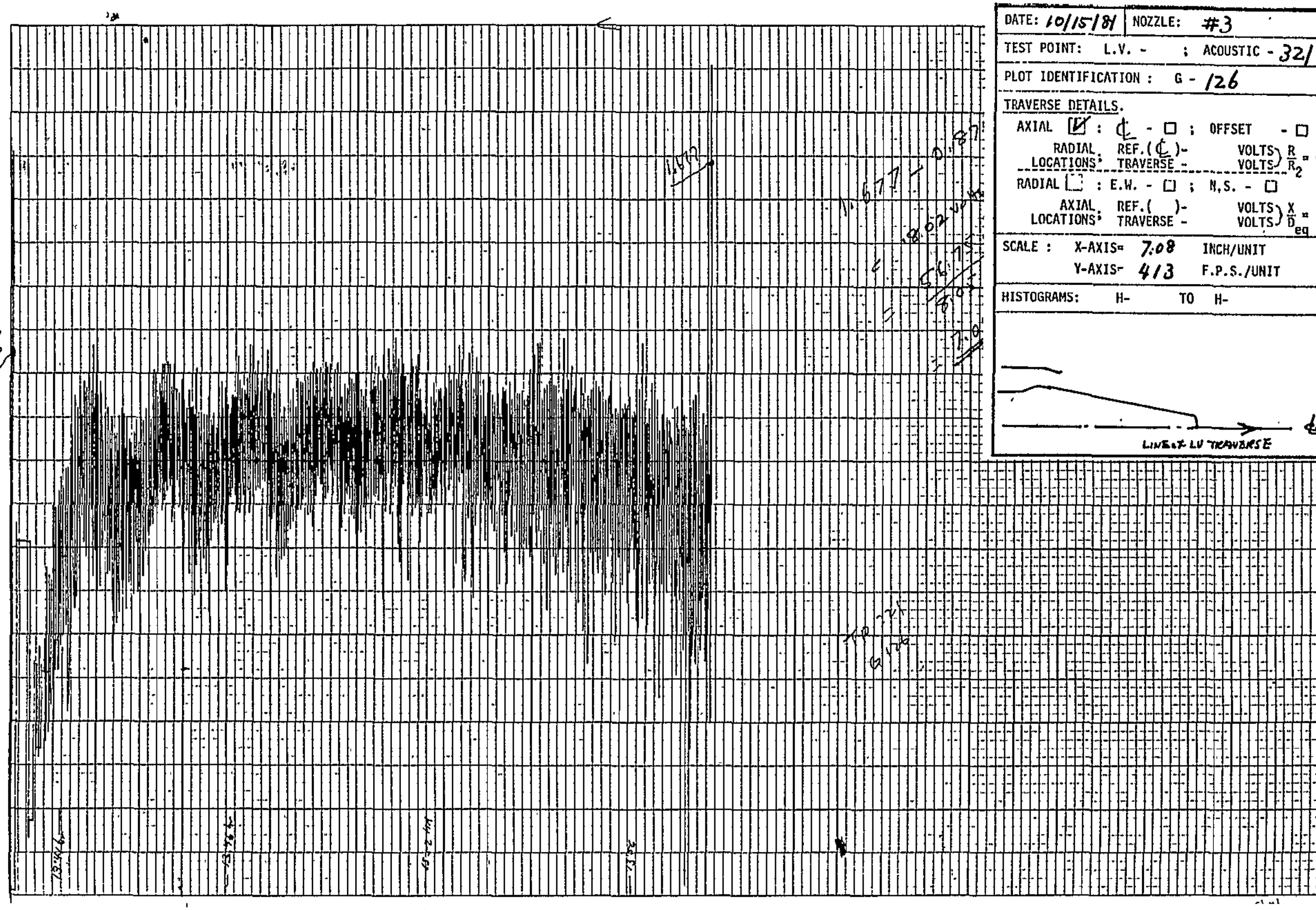

DATE: 10/15/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 126

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE of LV TRAVERSE

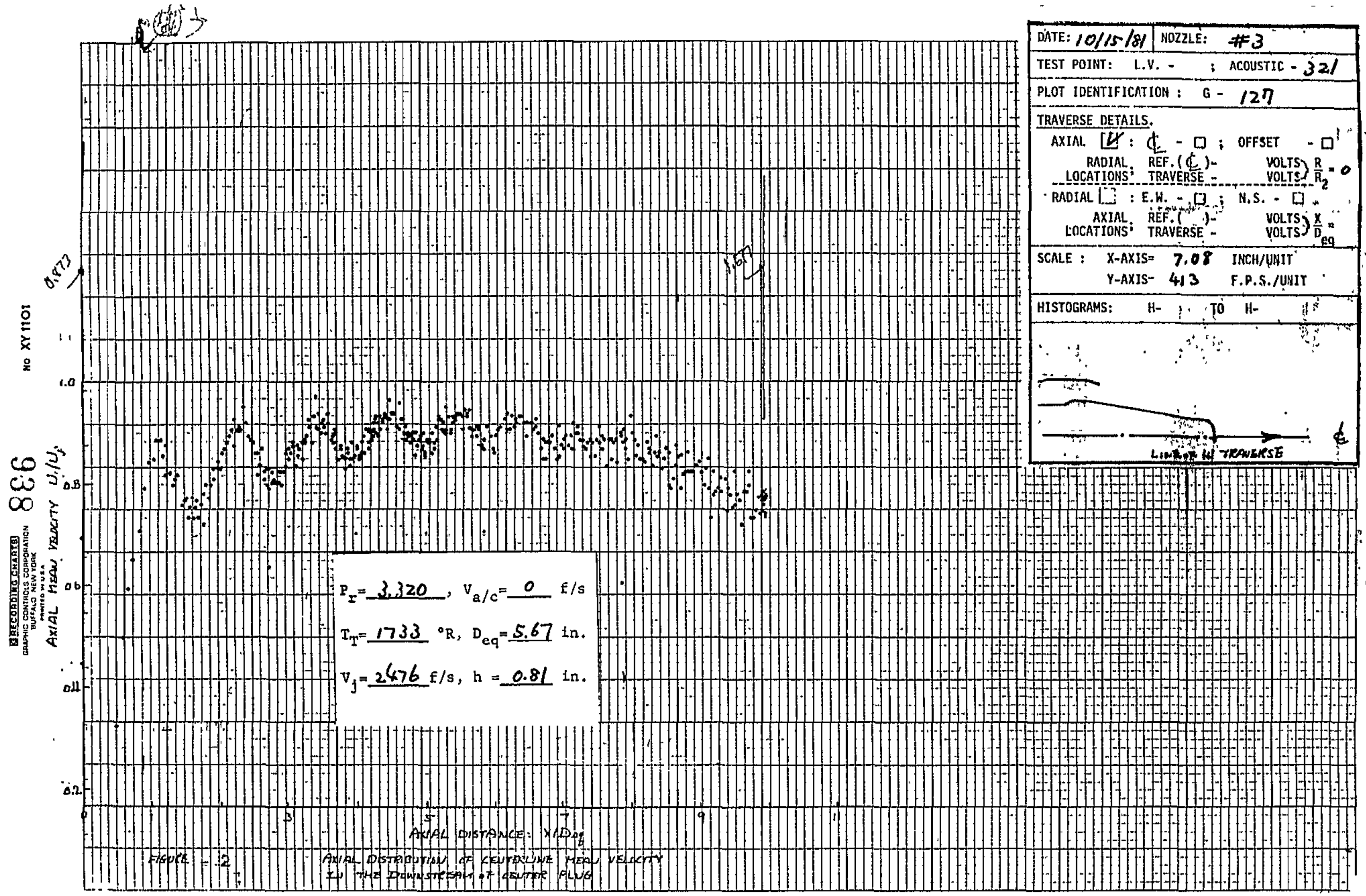

FIGURE - 2 AXIAL DISTRIBUTION OF CENTERLINE MEAN VELOCITY IN THE DOWNSTREAM OF CENTER PLUG

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DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 128

TRAVERSE DETAILS.

AXIAL [x] : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

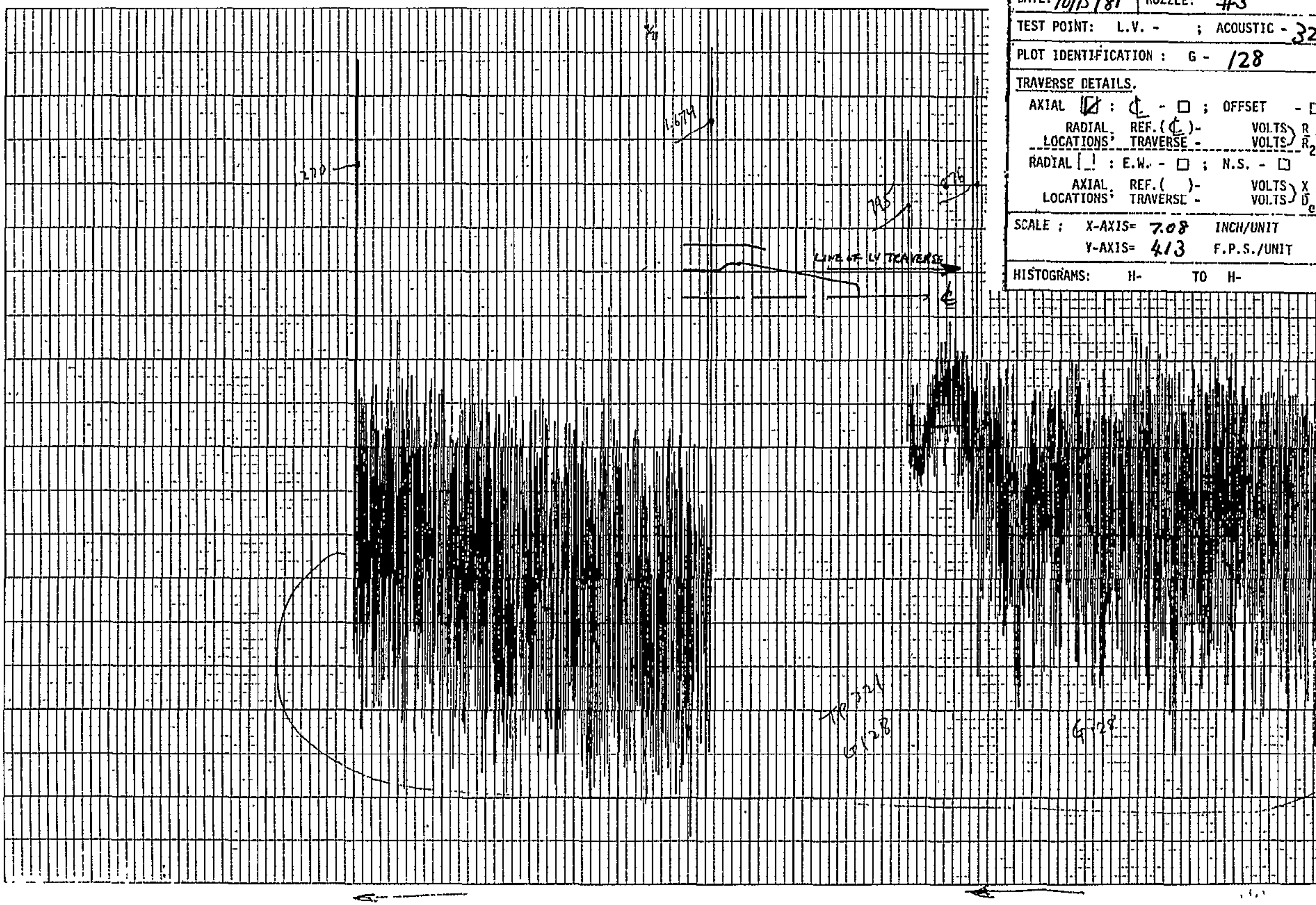
RADIAL [ ] : E.W. - □ ; N.S. - □

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-



No. XY 1101

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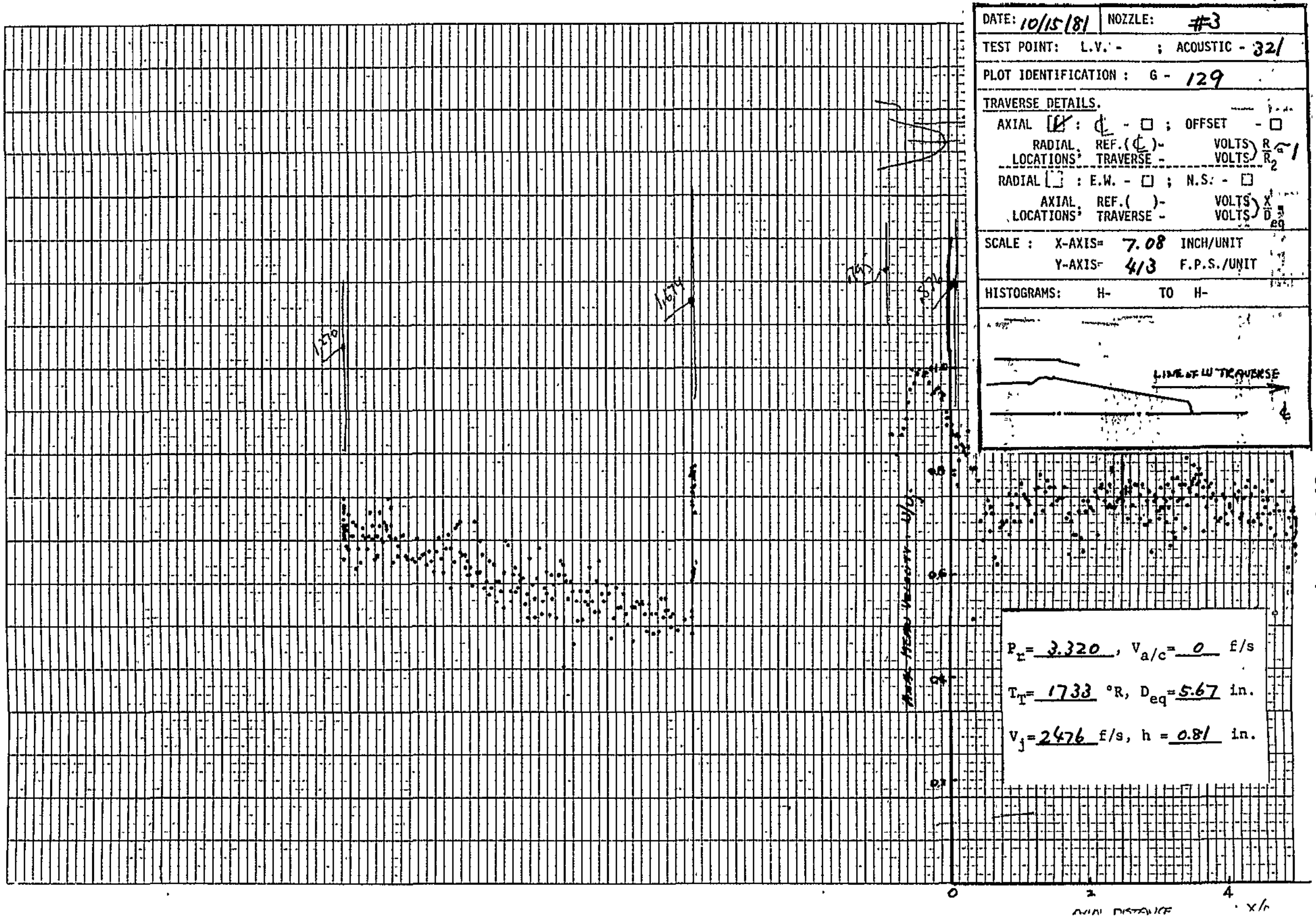

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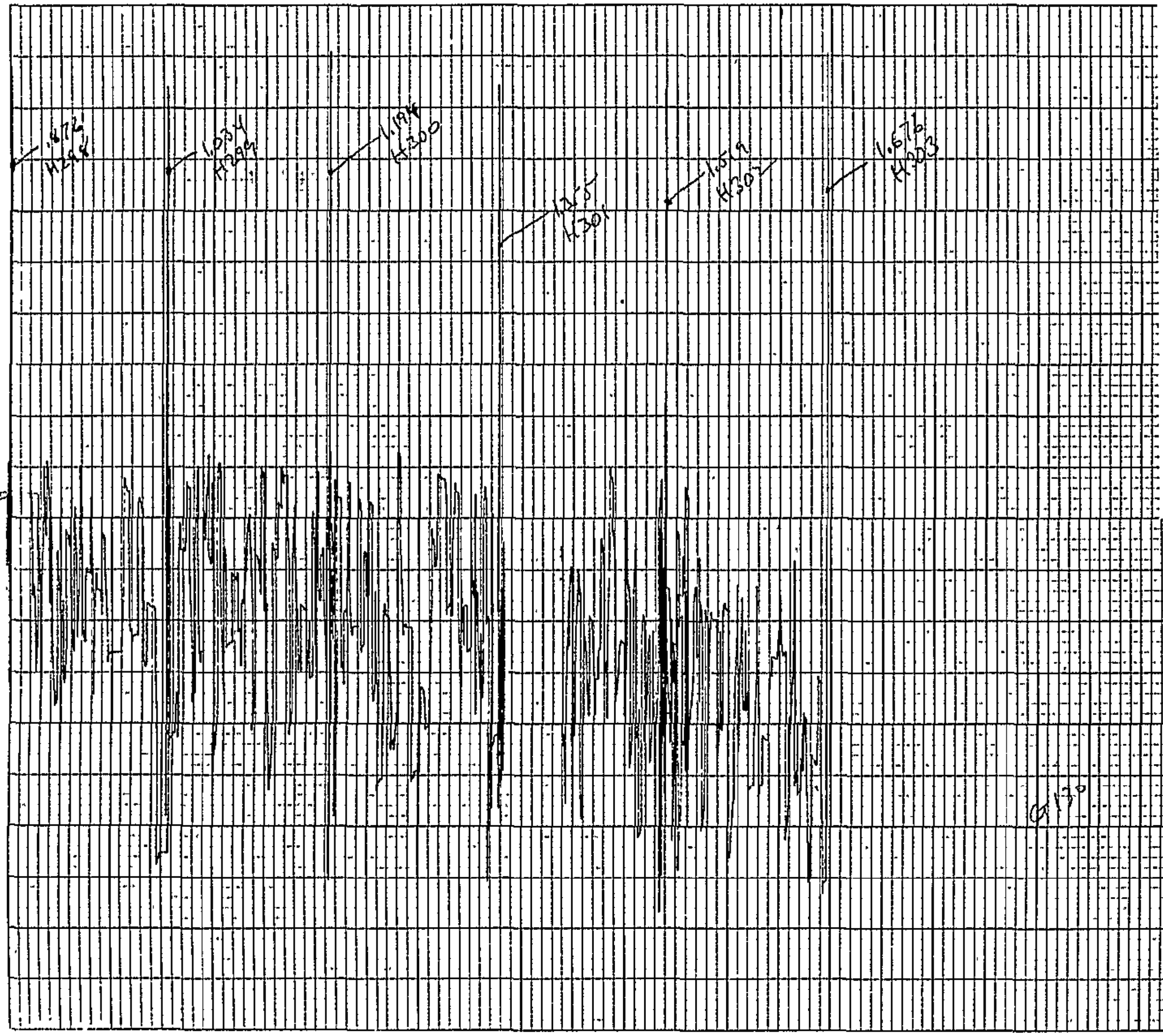

DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 130

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS } R/R_2 ≈ 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS } X/D_{eq} =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

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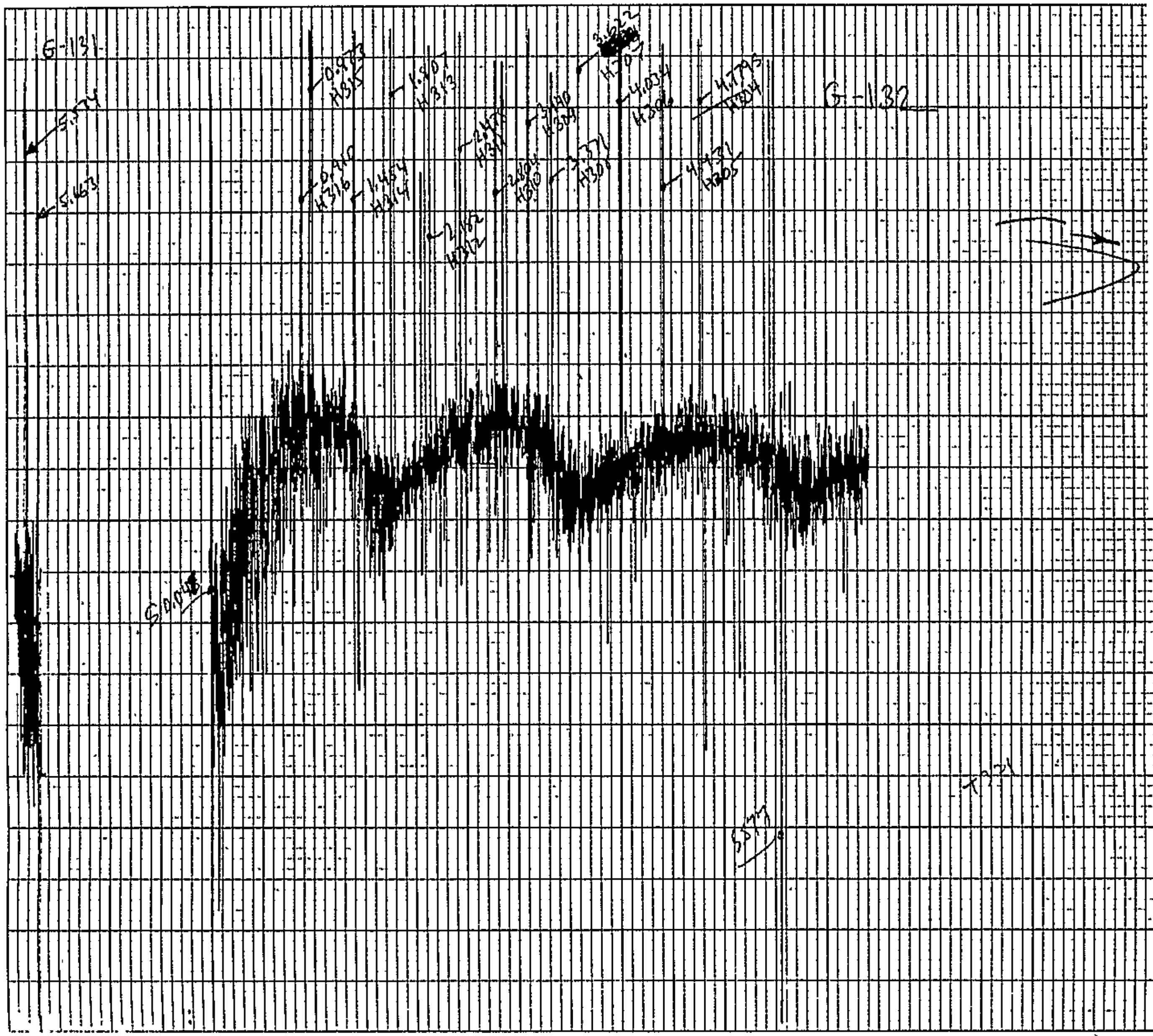

DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 321	
PLOT IDENTIFICATION : G - 131/132	

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL [ ] : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 413 - F.P.S./UNIT

HISTOGRAMS: H- 304 TO H- 316

LINE OF TRAVERSE

NO XY 1101

942

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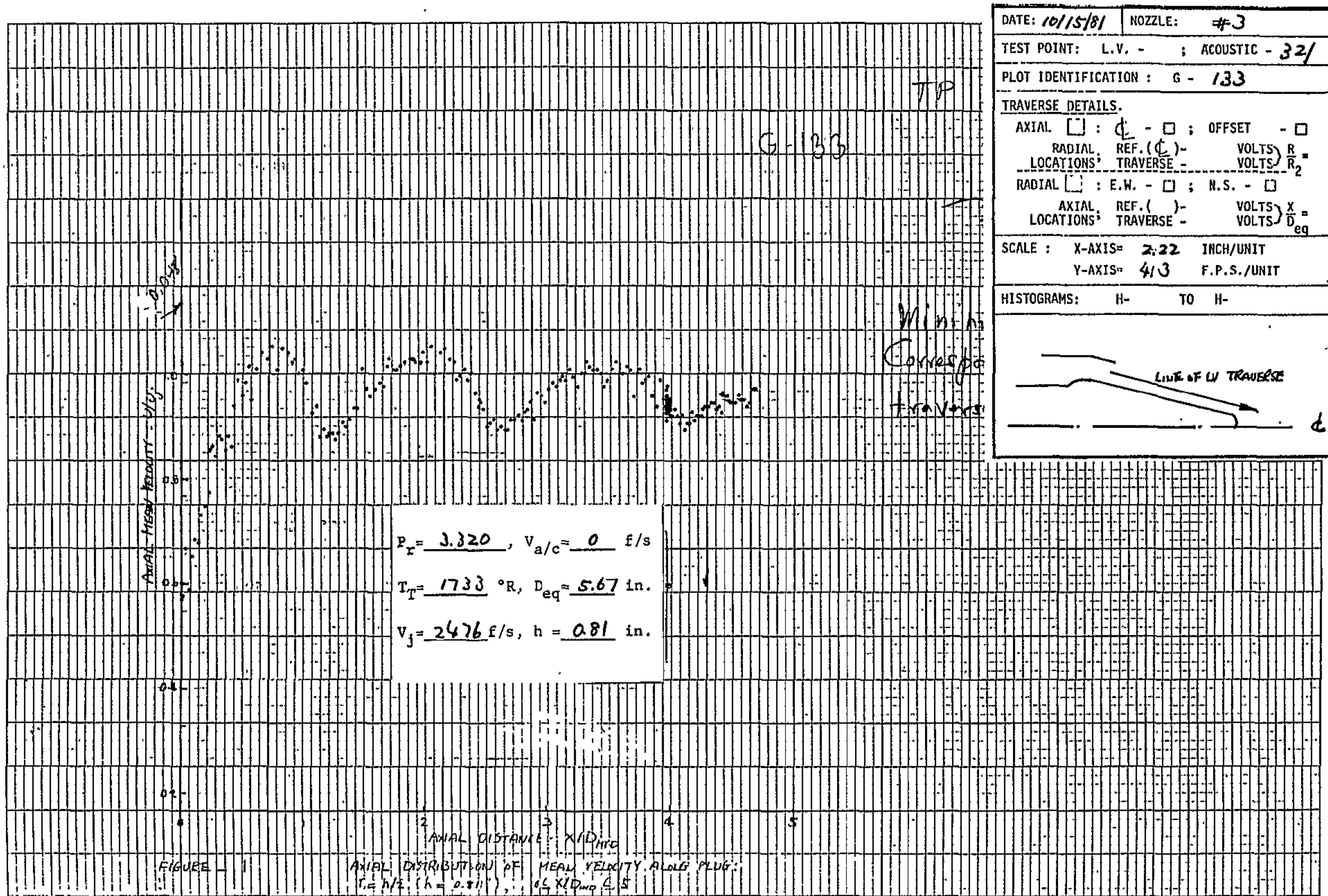
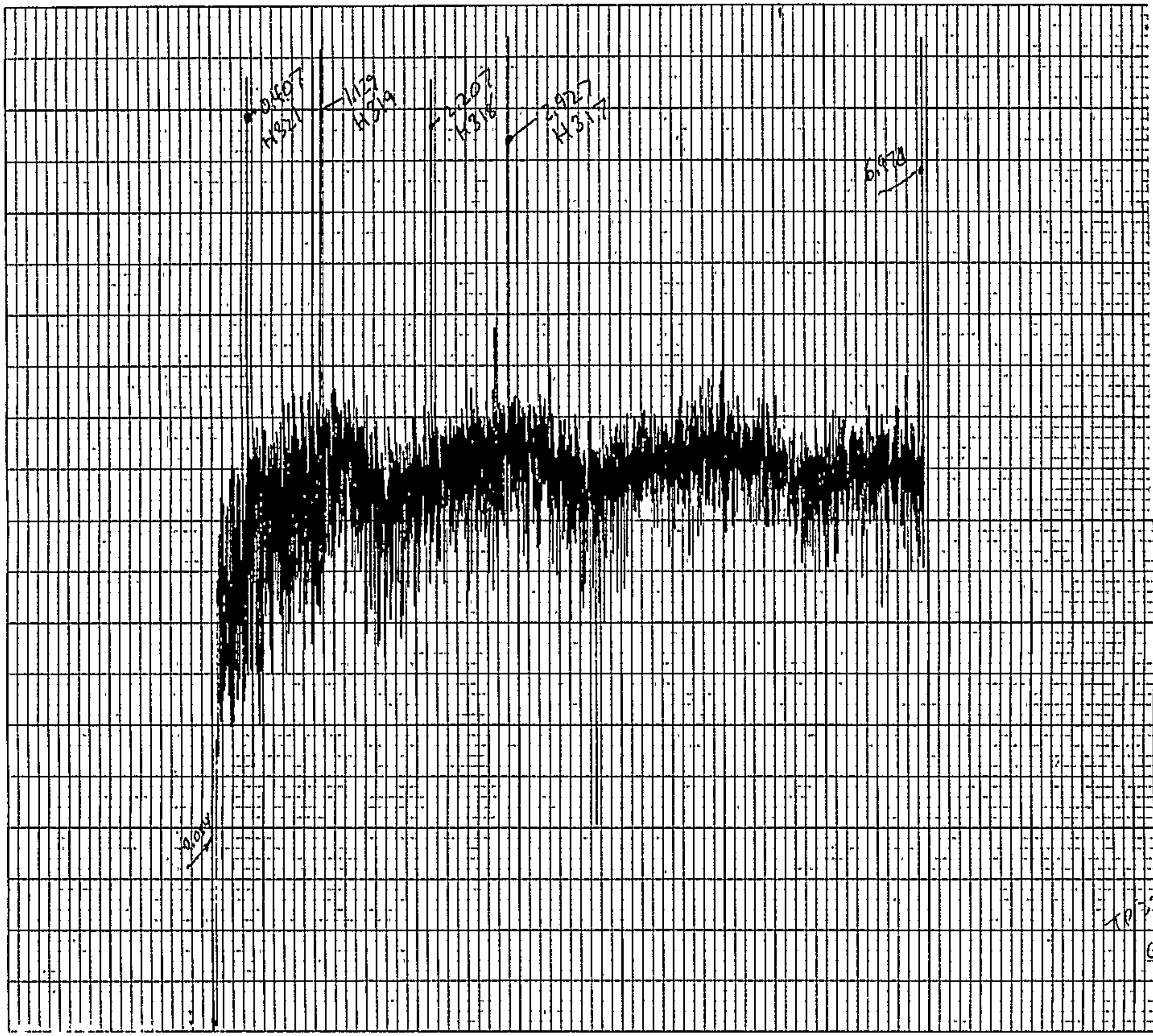


FIGURE - 1 AXIAL DISTRIBUTION OF MEAN VELOCITY ALONG PLUG; r = h/2 (h = 0.81), 0 ≤ X/D_HYD ≤ 5



DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 321	
PLOT IDENTIFICATION : G - 134	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

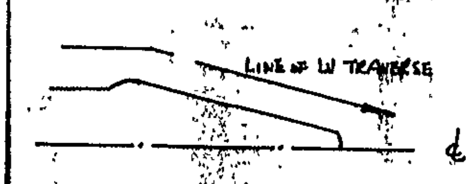
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT ;
Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- 317 TO H- 321



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944

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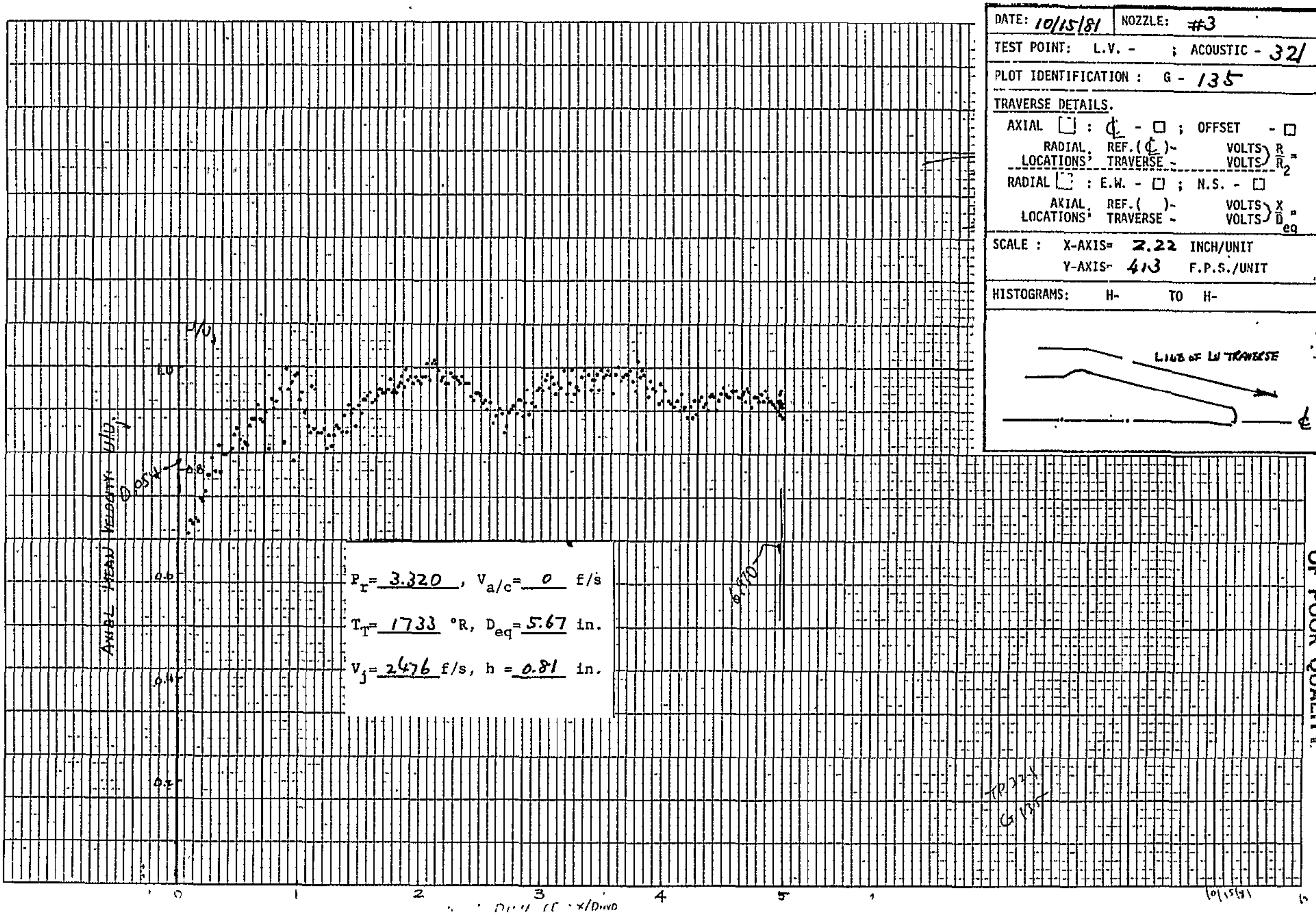


DATE: 10/15/81
NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 321
PLOT IDENTIFICATION : G - 135
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 413 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
P_r= 3.320 , $V_{a/c}$= 0 f/s
T_T= 1733 °R, D_{eq}= 5.67 in.
V_j= 2476 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY U/Uj
U/Uj
1.0
0.8
0.6
0.4
0.2
0.054
0.30
0 1 2 3 4 5
TP 324
G 135
10/15/81

DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 136

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS / VOLTS ; R/R_2

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS / VOLTS ; X/D_{eq}

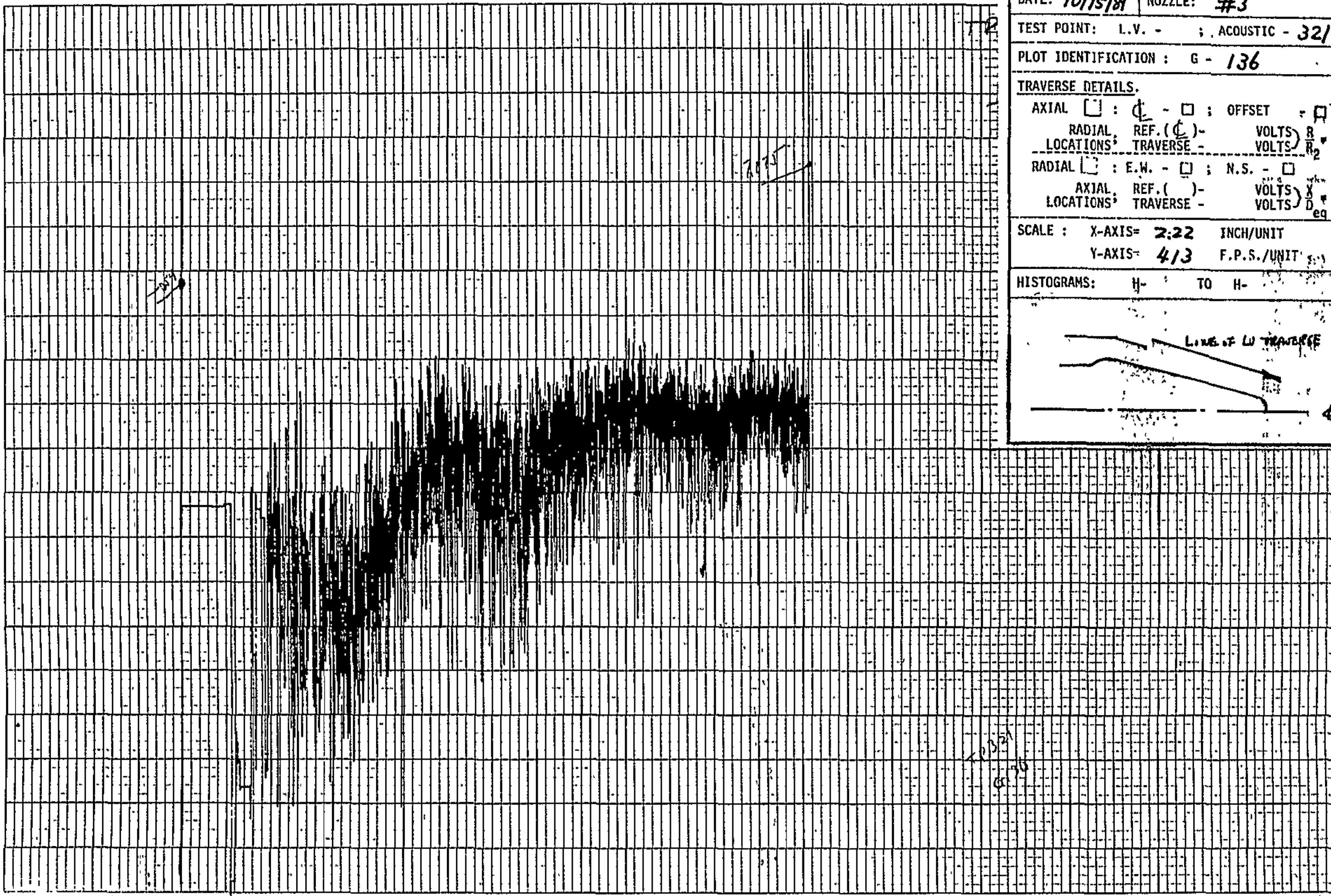
SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



NO XY 1101

946

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DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 321

PLOT IDENTIFICATION : G - 137

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - [ ] ; OFFSET - [ ]

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

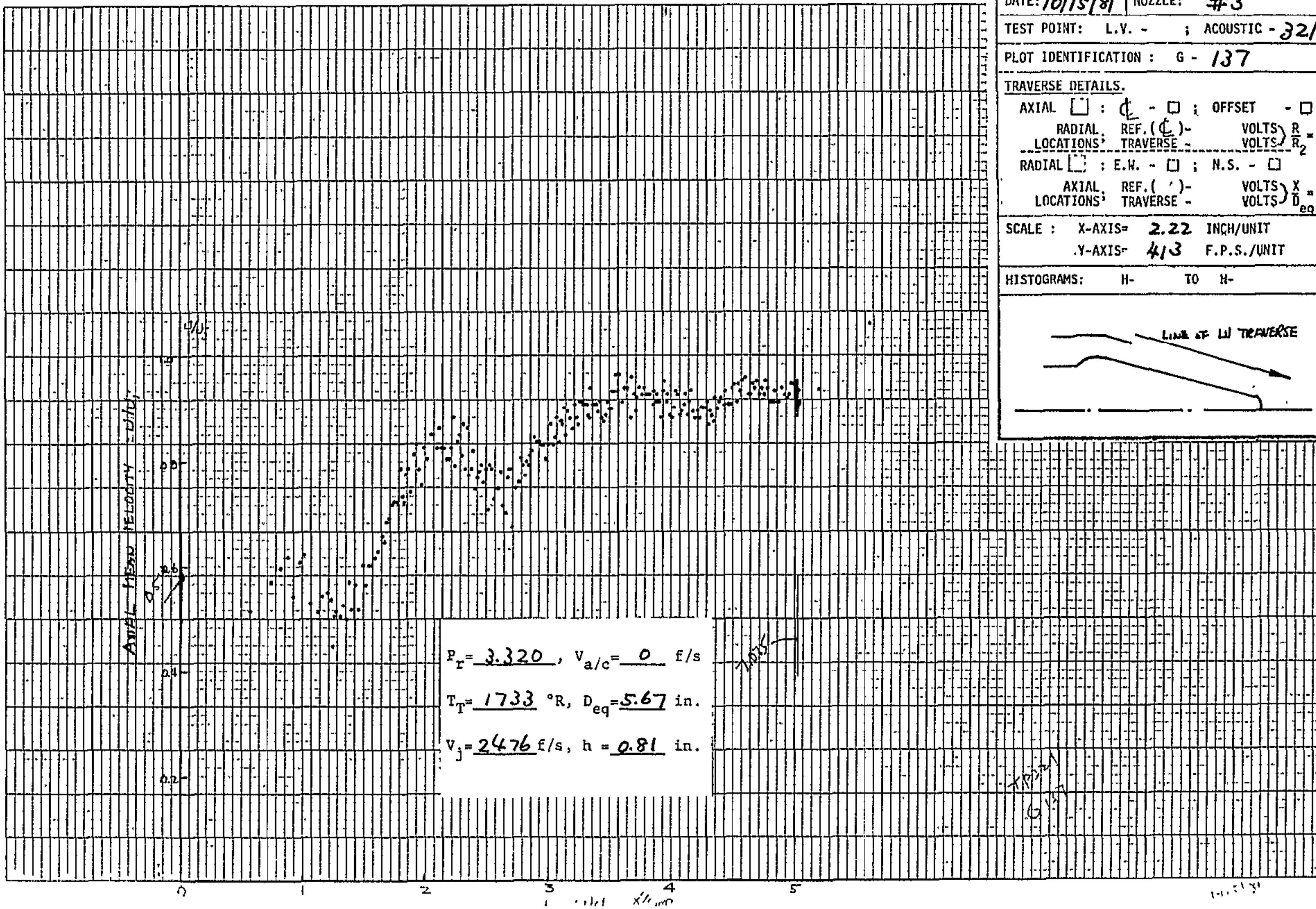
RADIAL [ ] : E.W. - [ ] ; N.S. - [ ]

AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-



P_r= 3.320 , $V_{a/c}$= 0 f/s

T_T= 1733 °R, D_{eq}=5.67 in.

V_j=2476 f/s, h = 0.81 in.

NO. XY 1101

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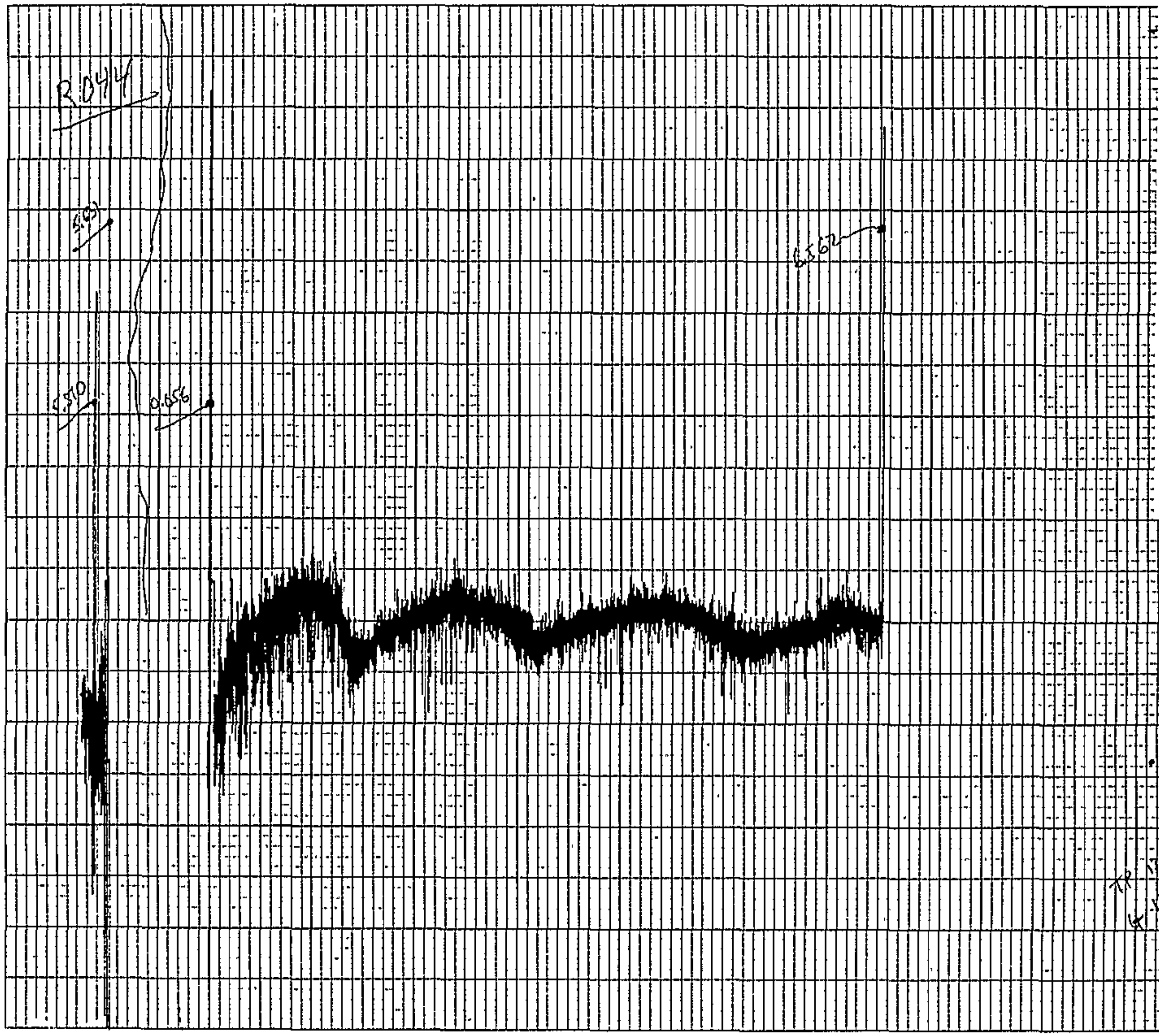
247

NO XY 11O1

949



DATE: 10/15/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 1313

PLOT IDENTIFICATION: G - 138

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

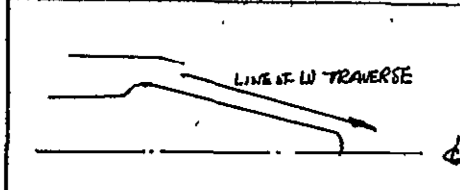
RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS / VOLTS } R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS / VOLTS } X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS- 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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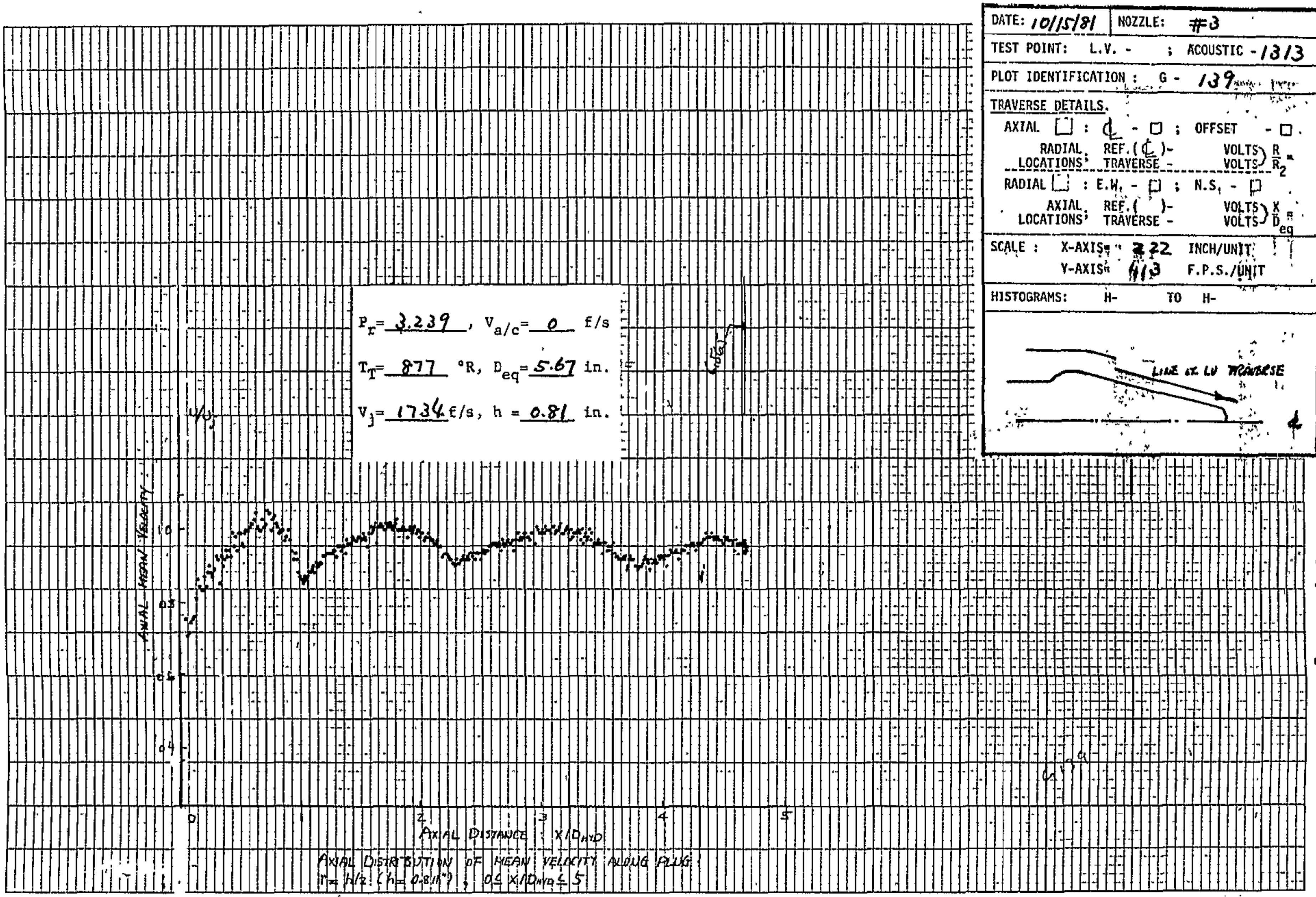
950



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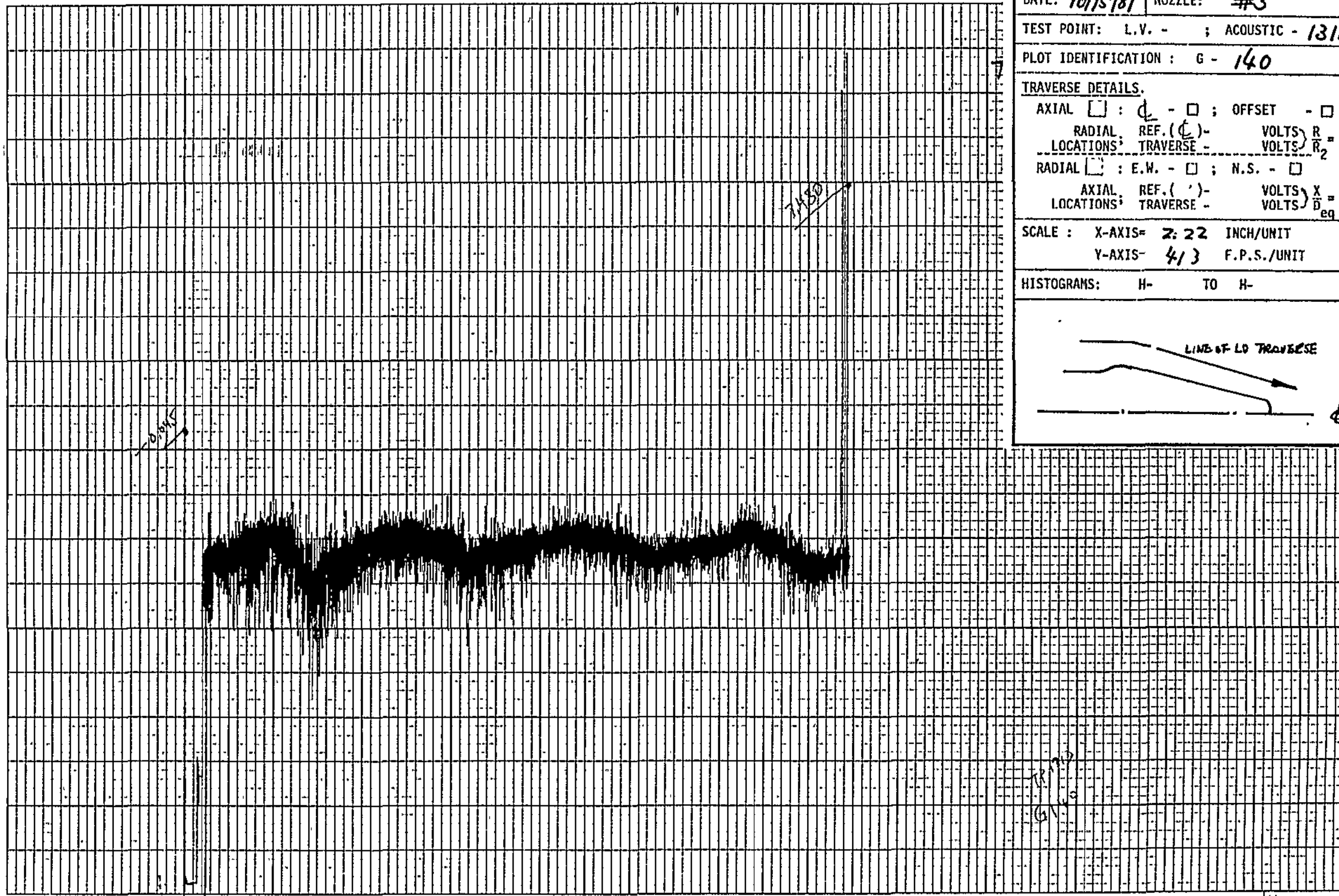


DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 1313

PLOT IDENTIFICATION : G - 140

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.(')- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

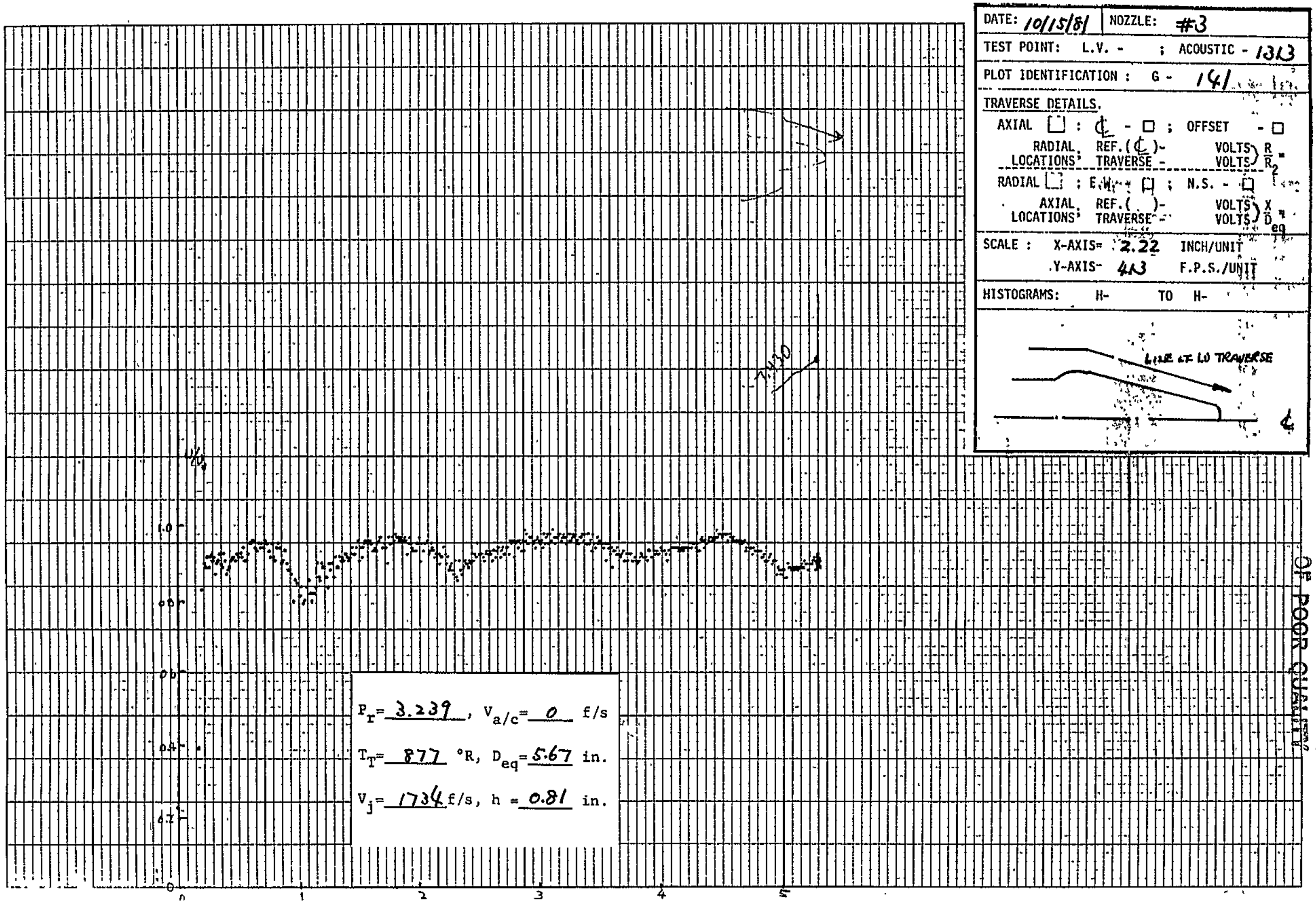
Y-AXIS- 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LD TRAVERSE

℄

10/15/81



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DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 1313	
PLOT IDENTIFICATION : G - 142	

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS VOLTS } $\frac{R}{R_2}$ = 0

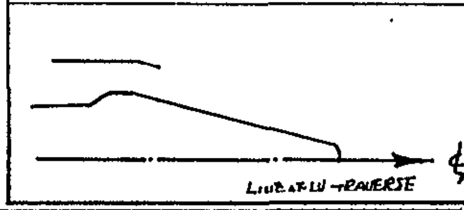
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

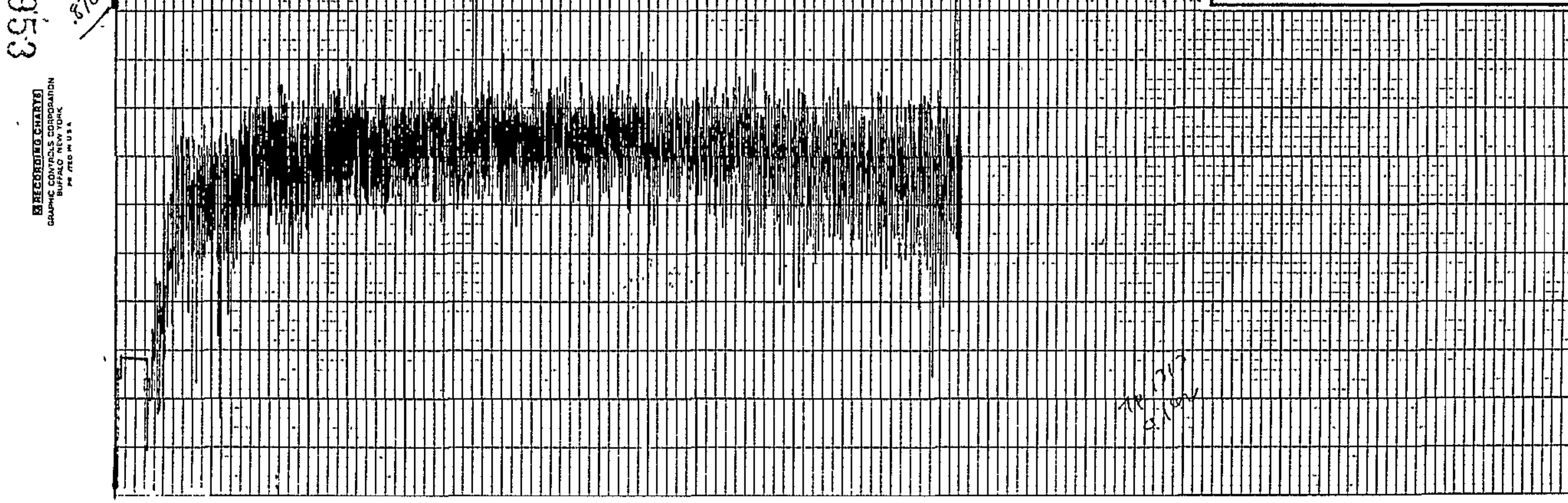
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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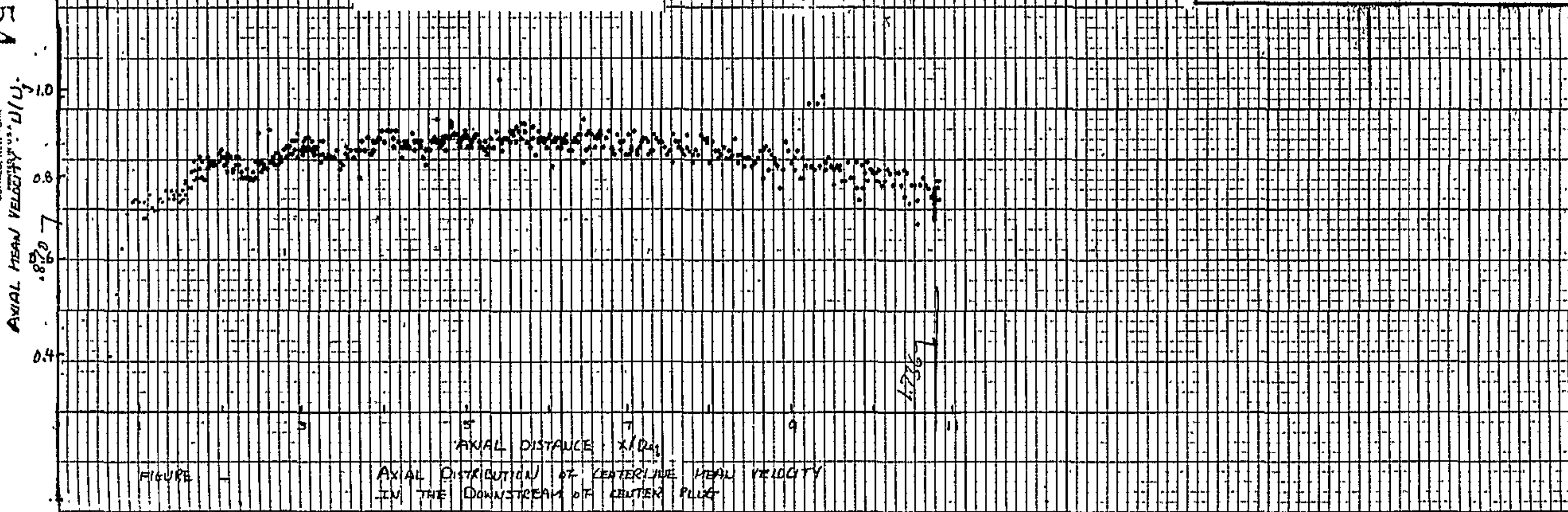
DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 1313	
PLOT IDENTIFICATION : G - 143	
TRAVERSE DETAILS. AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐ ; RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2} = 0$	
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐ ; AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =	
SCALE : X-AXIS= 7.08 INCH/UNIT ; Y-AXIS= 413 F.P.S./UNIT	
HISTOGRAMS: H- TO H-	

P_r= 3.239 , $V_{a/c}$= 0 f/s

T_T= 877 °R, D_{eq}= 5.67 in.

V_j= 1734 f/s, h = 0.81 in.



954

DATE: 10/15/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 1313

PLOT IDENTIFICATION : G - 144

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

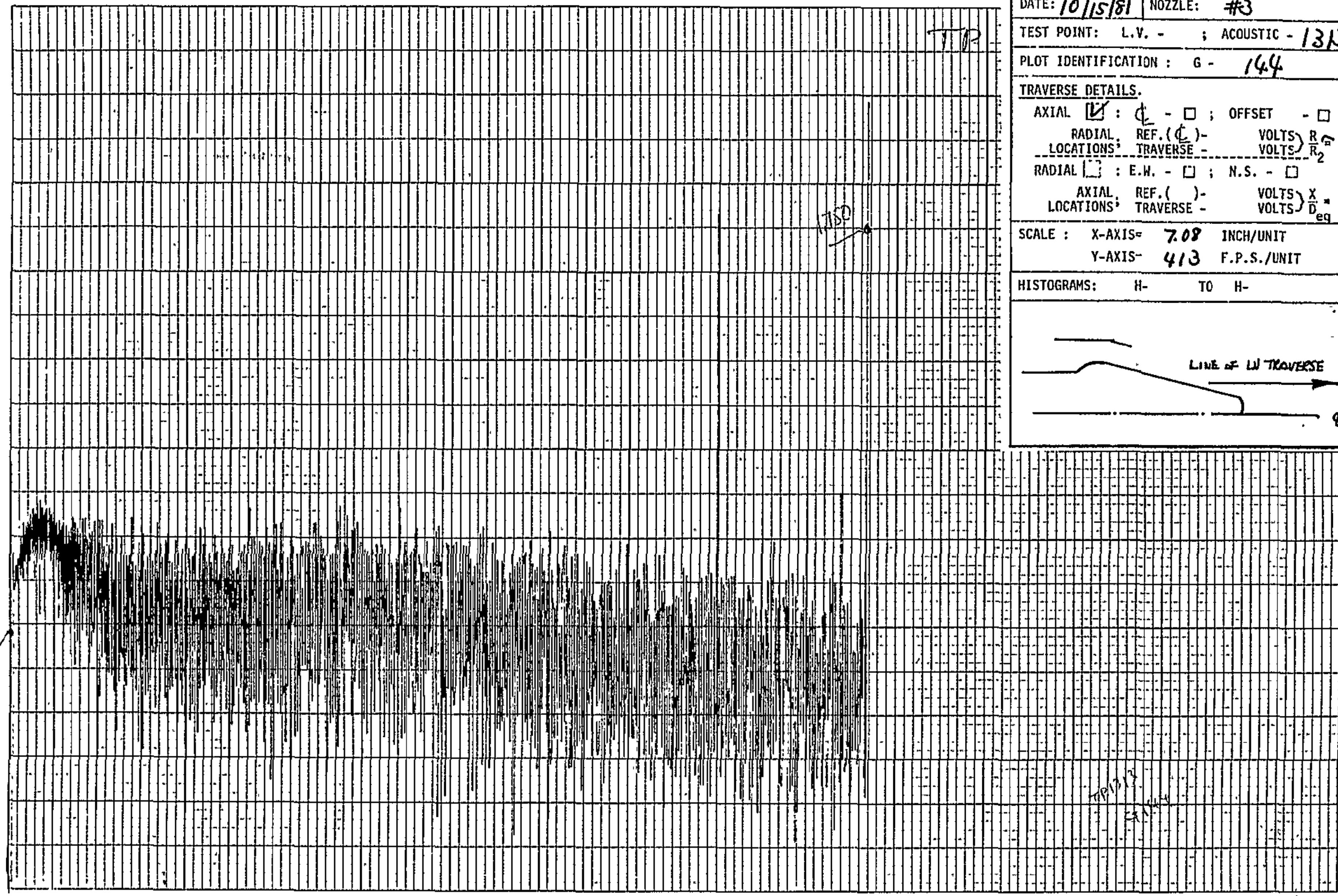
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS- 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-



955

DATE: 10/15/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 1313	
PLOT IDENTIFICATION : G - 145	

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

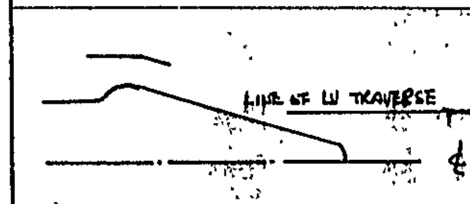
RADIAL LOCATIONS; REF. (℄) - VOLTS; TRAVERSE - VOLTS; $R/R_2 = 1$

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( ) - VOLTS; TRAVERSE - VOLTS; $X/D_{eq} =$

SCALE : X-AXIS = 7.08 INCH/UNIT; Y-AXIS = 413 F.P.S./UNIT

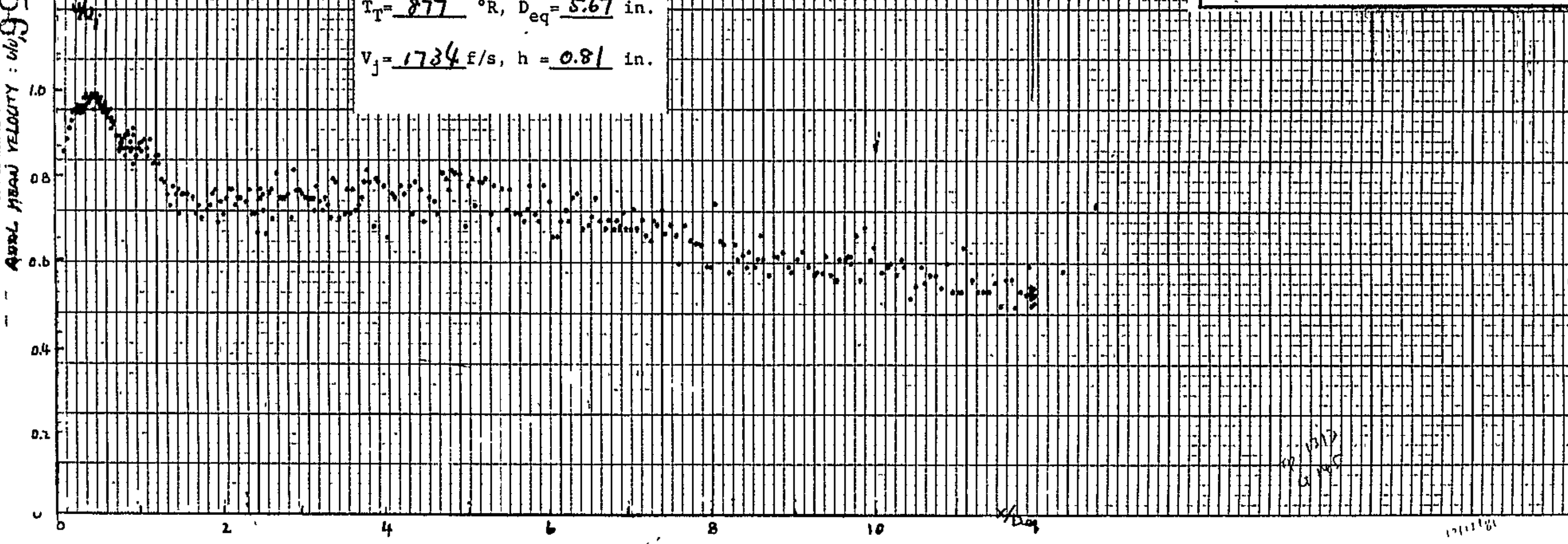
HISTOGRAMS: H- TO H-



P_r = 3.239, $V_{a/c}$ = 0 f/s

T_T = 877 °R, D_{eq} = 5.67 in.

V_j = 1734 f/s, h = 0.81 in.



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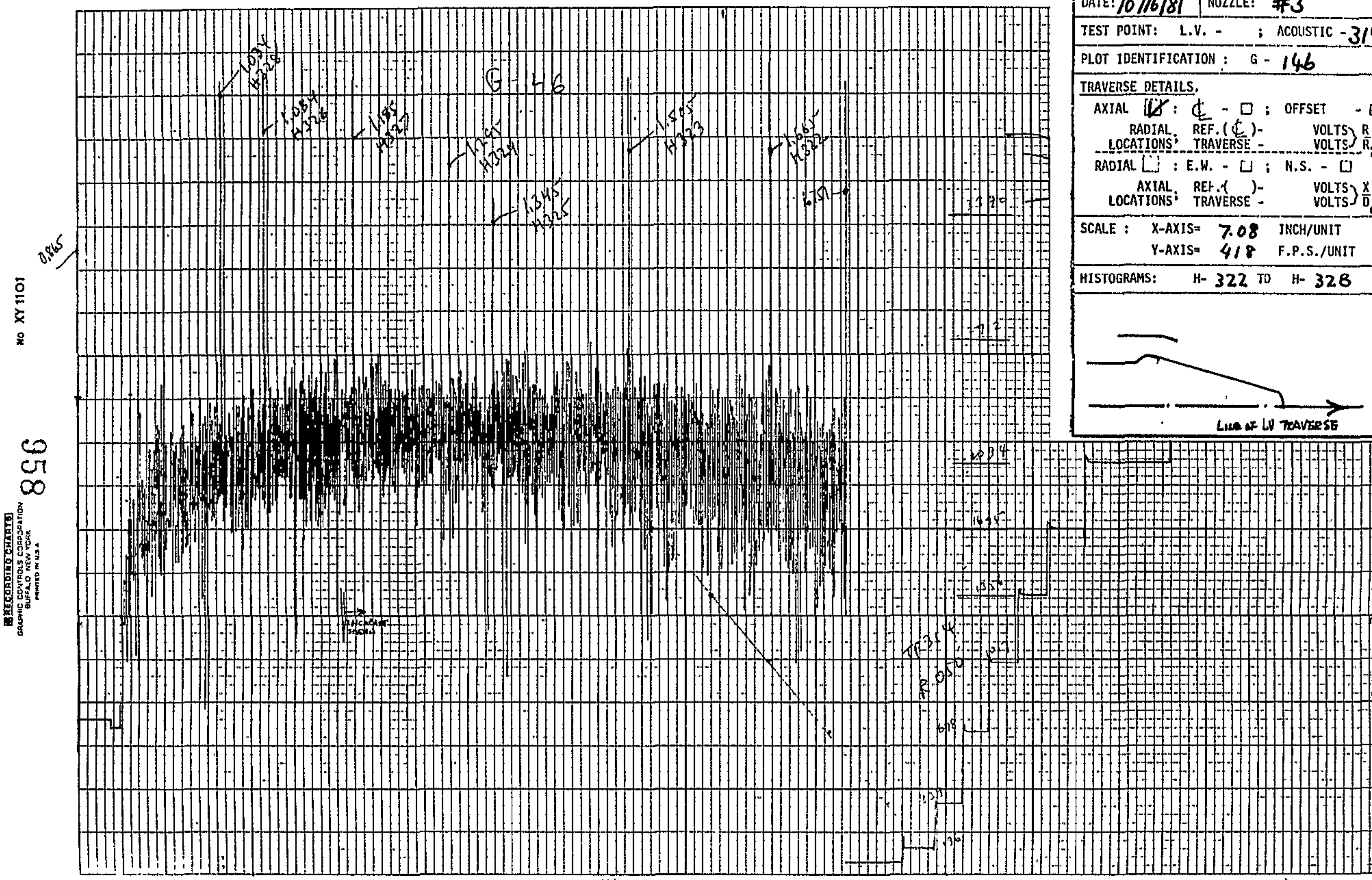
Model 3
Test Point 314



DATE: 10/16/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 146

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

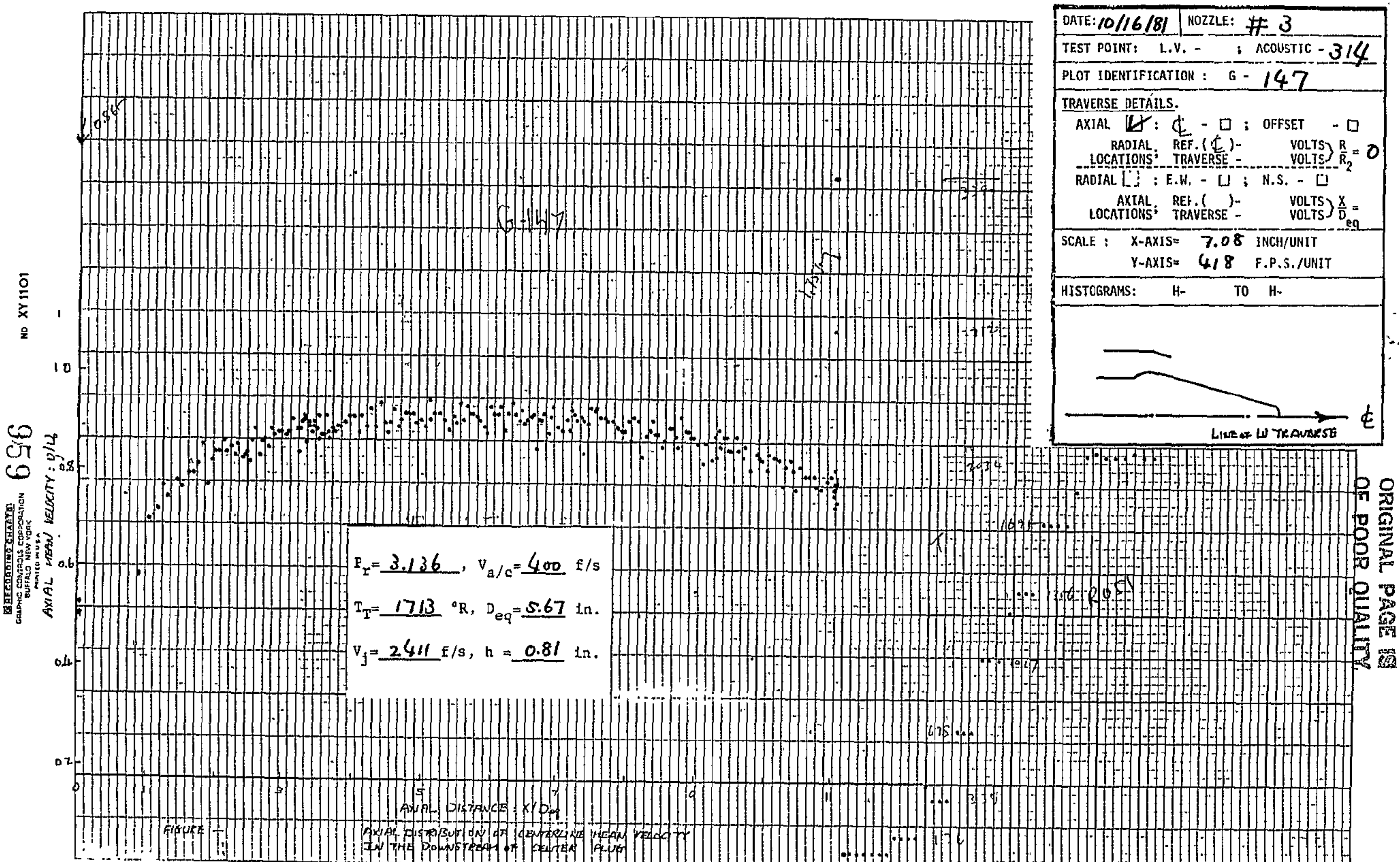
SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- 322 TO H- 328

LINE OF LV TRAVERSE
℄

958



696

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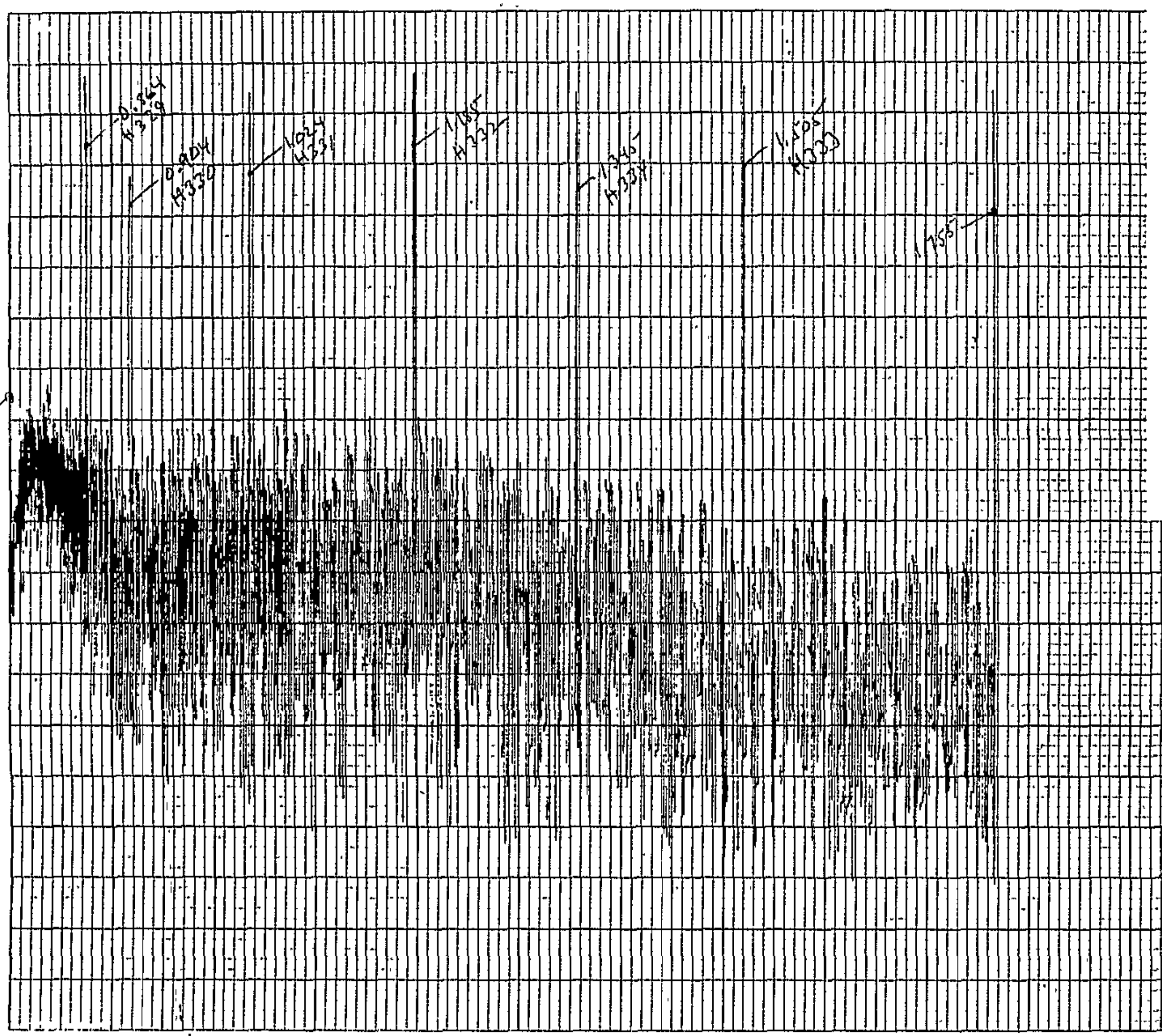
NO XY1101

096



DATE: 10/16/81 NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 148

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ = 1

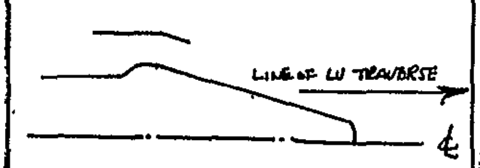
RADIAL ☐ ; E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE: X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- 329 TO H- 333



DATE: 10/16/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 314	
PLOT IDENTIFICATION : G - 149	

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2} \approx 1$

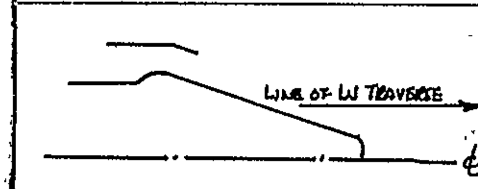
RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

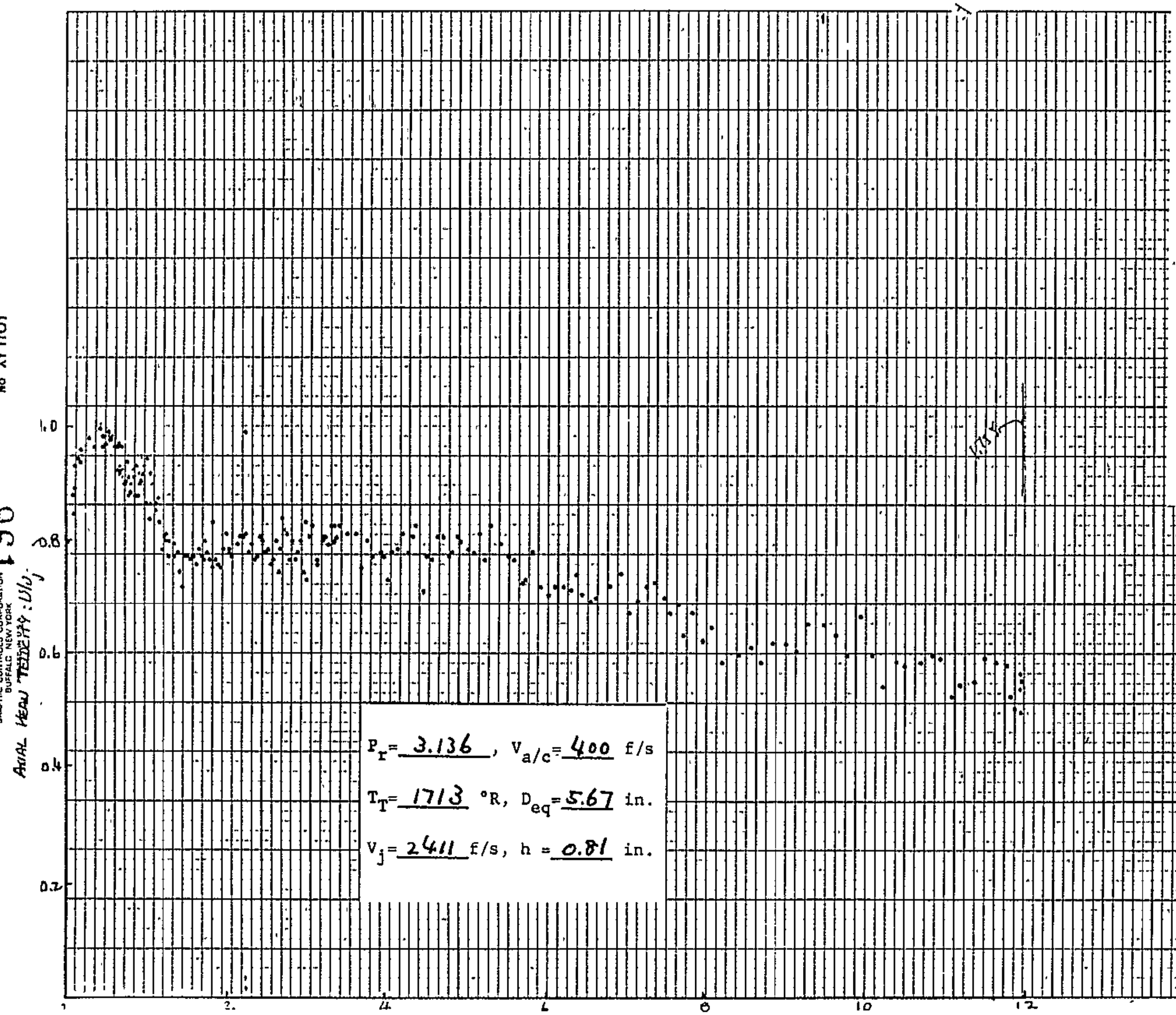
AXIAL LOCATIONS: REF. (')- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-





NO XY 1101

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T.P. 314 RADIAL DISTR. OF MEAN VELOCITY ③

DATE: 10/16/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 150 /151

TRAVERSE DETAILS.

AXIAL ☐ ; ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

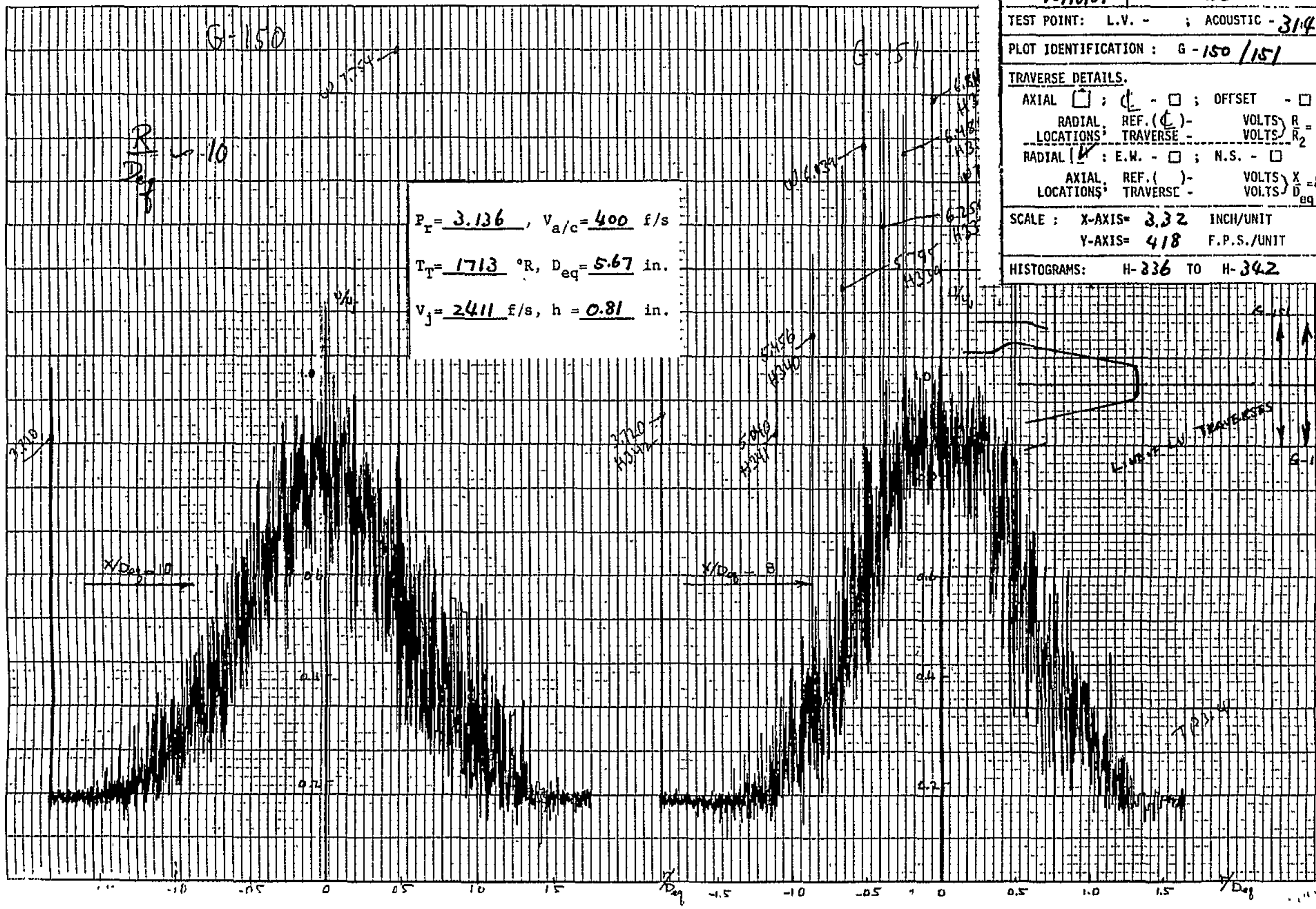
RADIAL ☑ ; E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ = 8, 10

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

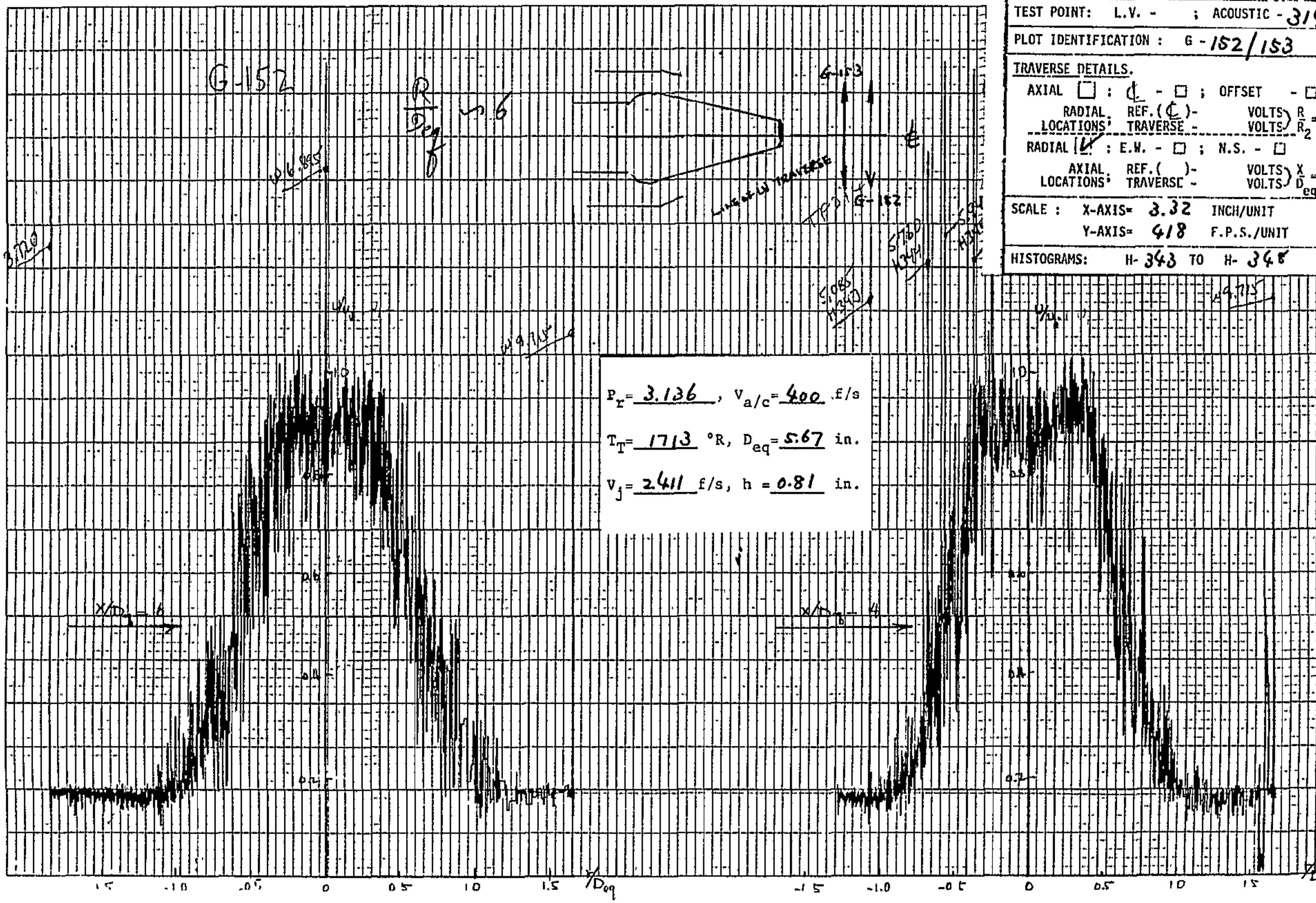
HISTOGRAMS: H- 336 TO H- 342



298

T.P. 314 RADIAL DISTR. OF MEAN VELOCITY ②

DATE: 10/16	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 314	
PLOT IDENTIFICATION : G - 152/153	
TRAVERSE DETAILS.	
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐	
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS) $\frac{R}{R_2}$ = VOLTS)	
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐	
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS) $\frac{X}{D_{eq}}$ = 4, 6 VOLTS)	
SCALE : X-AXIS= 3.32 INCH/UNIT; Y-AXIS= 418 F.P.S./UNIT	
HISTOGRAMS: H- 343 TO H- 348	



P_r = 3.136, $V_{a/c}$ = 400 f/s

T_T = 1713 °R, D_{eq} = 5.67 in.

V_j = 2411 f/s, h = 0.81 in.

No XY 1101

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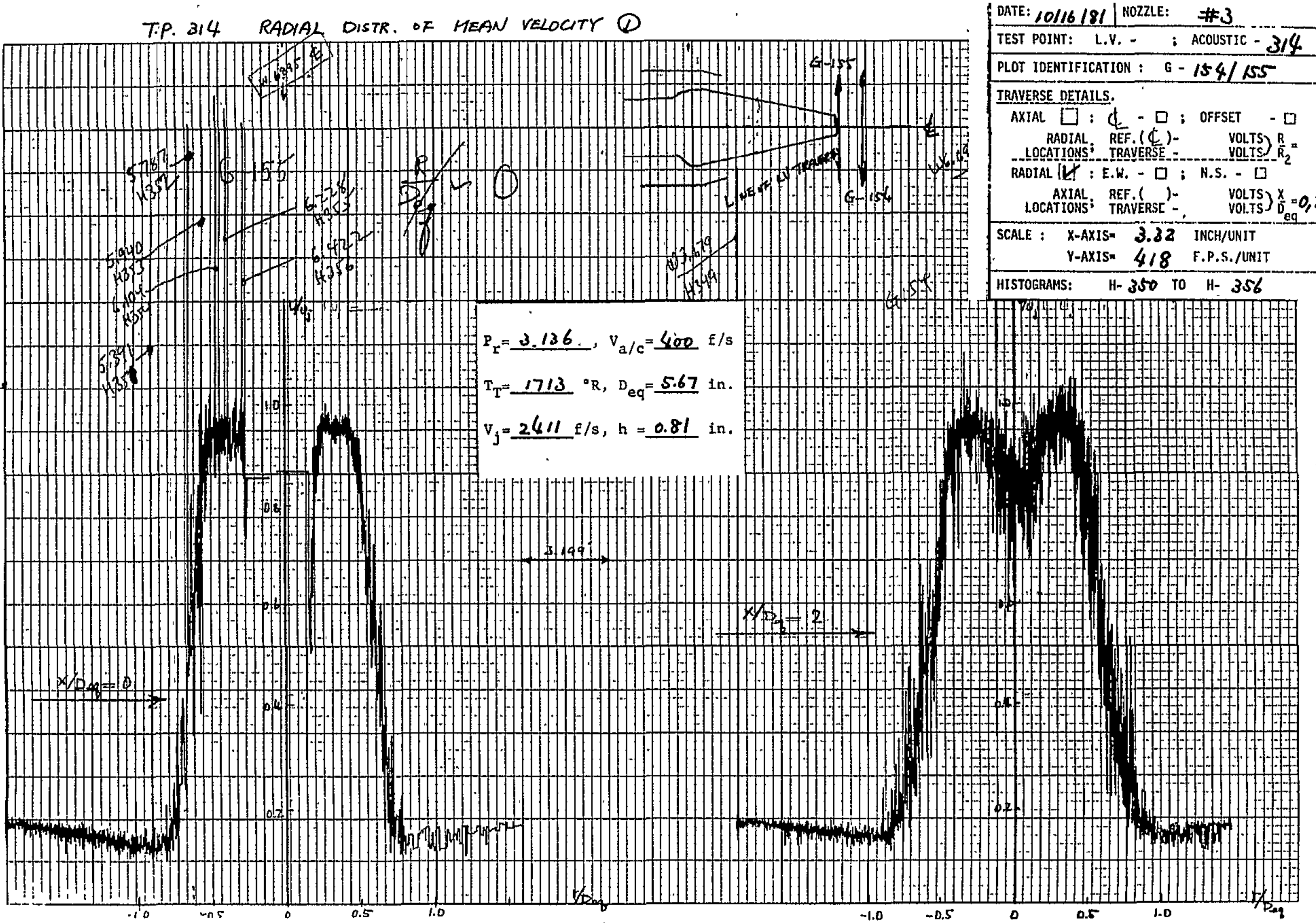
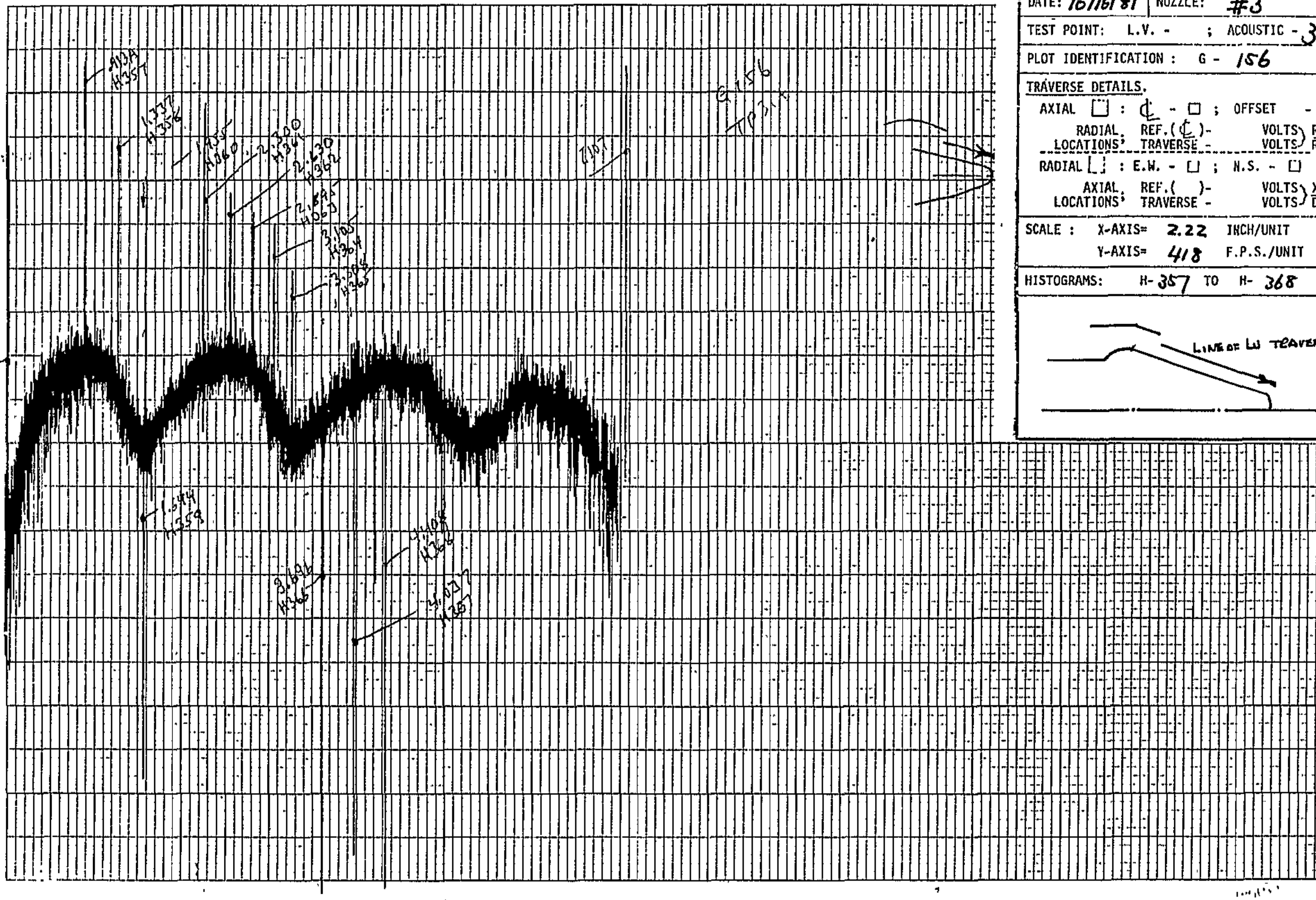
T.P. 314 RADIAL DISTR. OF MEAN VELOCITY ①





DATE: 10/16/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 156

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)-TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )-TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H-357 TO H-368

LINE OF LV TRAVERSE

℄

No XY 1101

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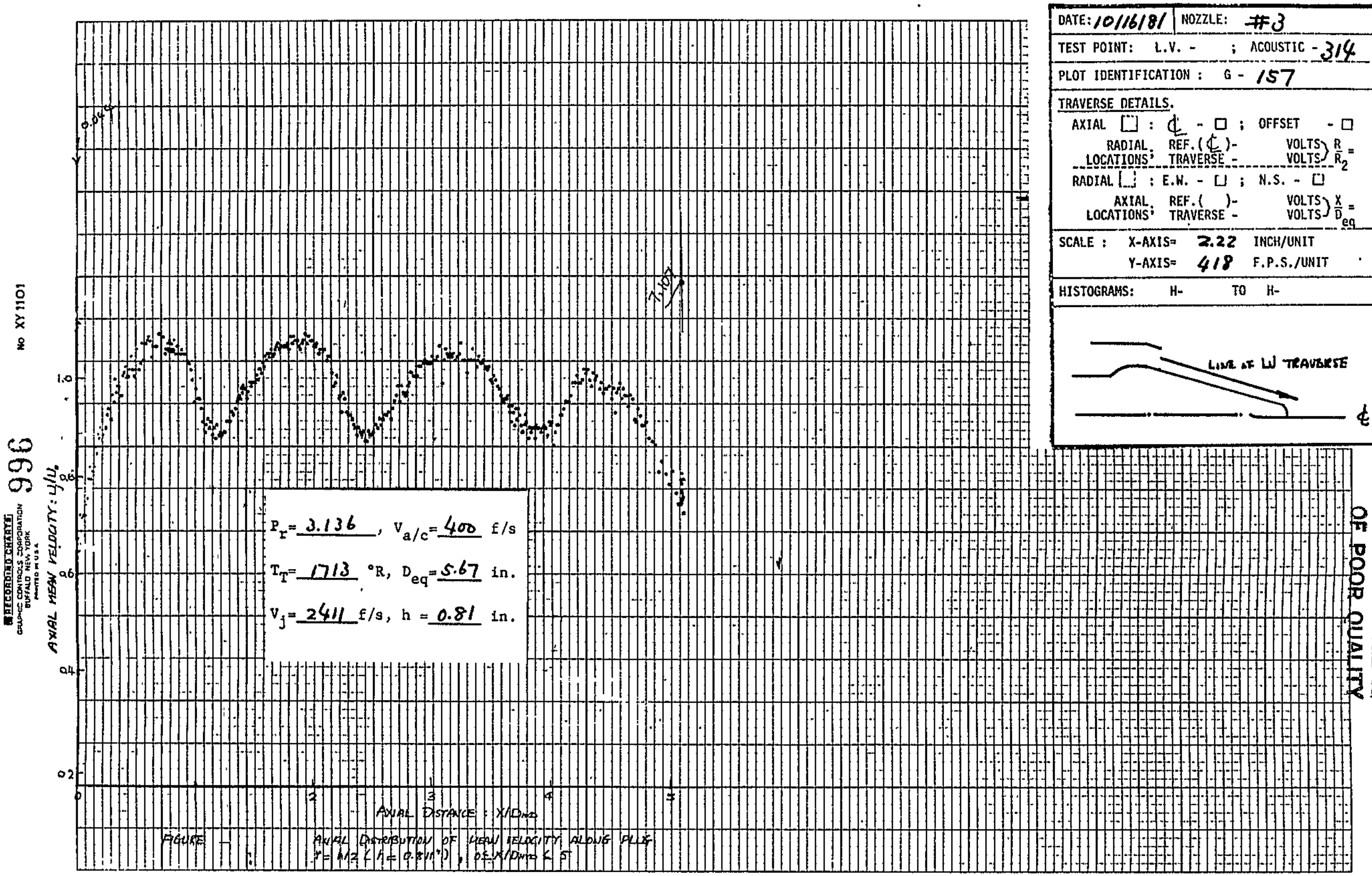
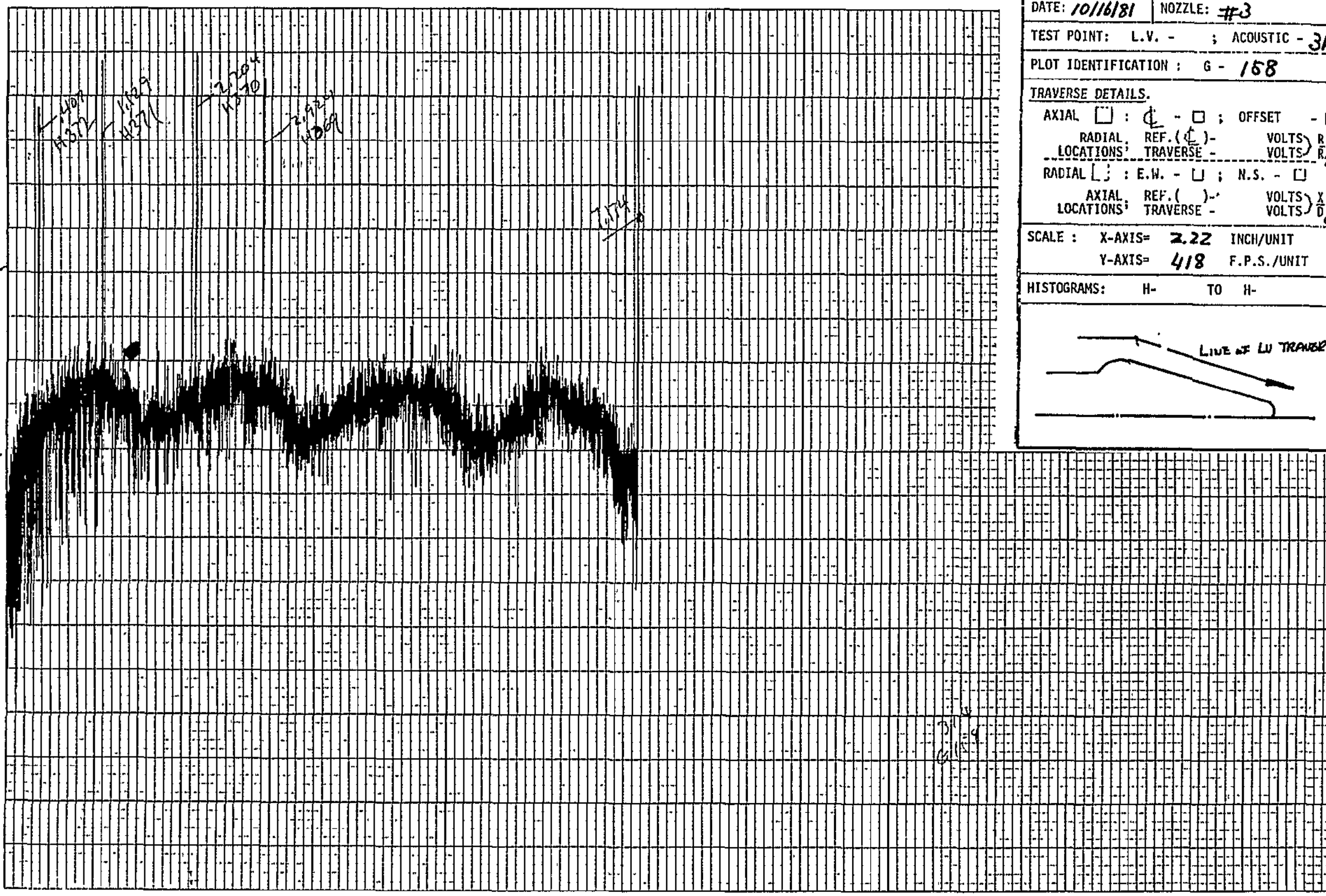

DATE: 10/16/81
NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 314
PLOT IDENTIFICATION : G - 157
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 418 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.136 , Va/c= 400 f/s
TT= 1713 °R, Deq= 5.67 in.
Vj= 2411 f/s, h = 0.81 in.
1.0
0.8
0.6
0.4
0.2
0
2
3
4
5
AXIAL MEAN VELOCITY: U/Uj
AXIAL DISTANCE : X/Dhyd
FIGURE
AXIAL DISTRIBUTION OF MEAN VELOCITY ALONG PLUG
r = h/2 (h = 0.811"), 0 ≤ X/Dhyd ≤ 5
NO XY 1101
996
RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

NO XY 1101



DATE: 10/16/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 158

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS; TRAVERSE - VOLTS } R/R_2 =

RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- VOLTS; TRAVERSE - VOLTS } X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE
℄

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DATE: 10/16/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 159

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

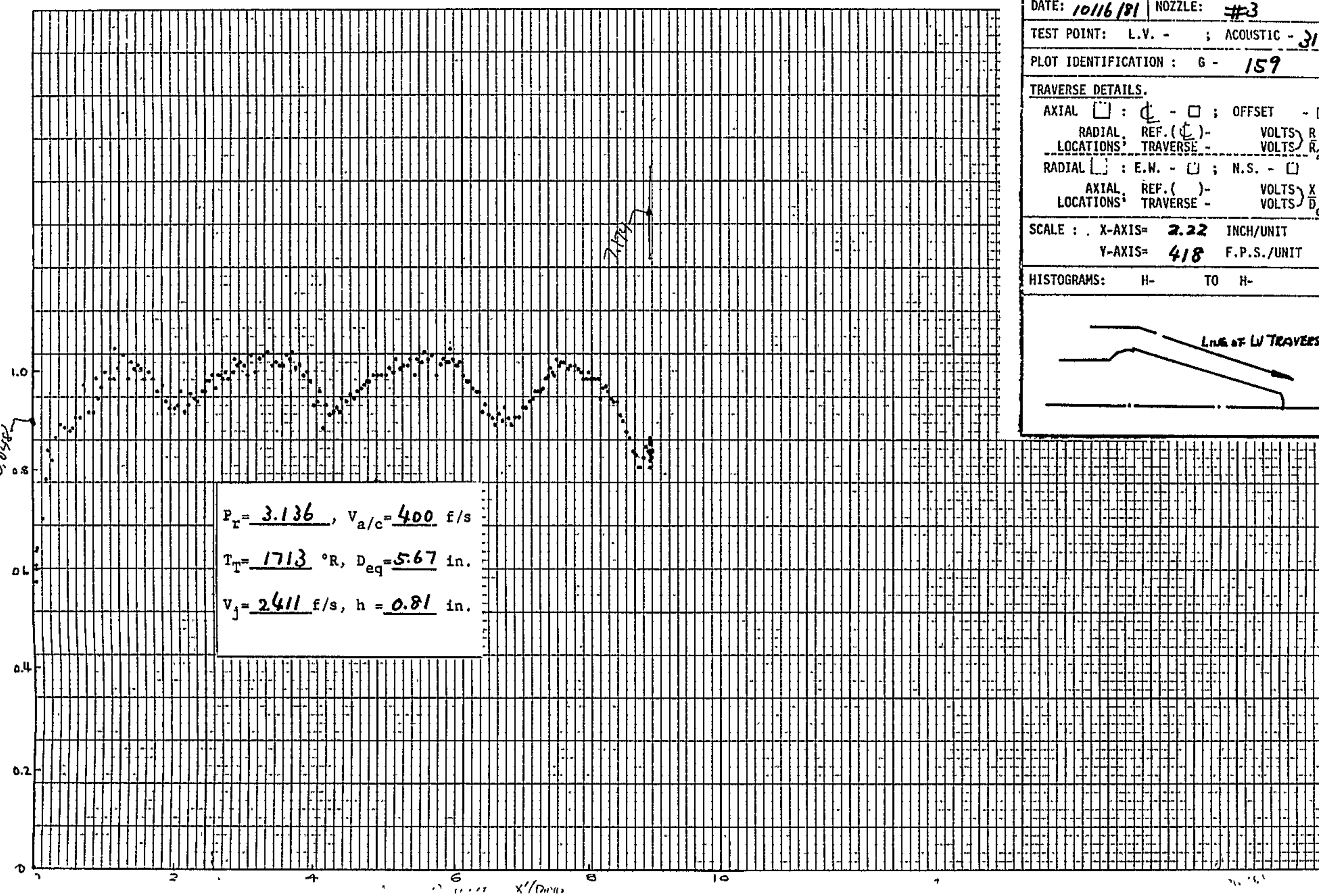
RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 10/16/81 NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 160

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - [ ] ; OFFSET - [ ]

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

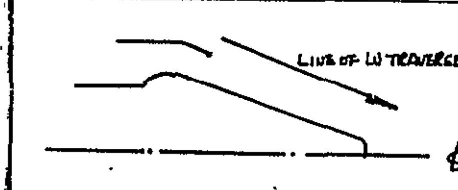
RADIAL [ ] : E.W. - [ ] ; N.S. - [ ]

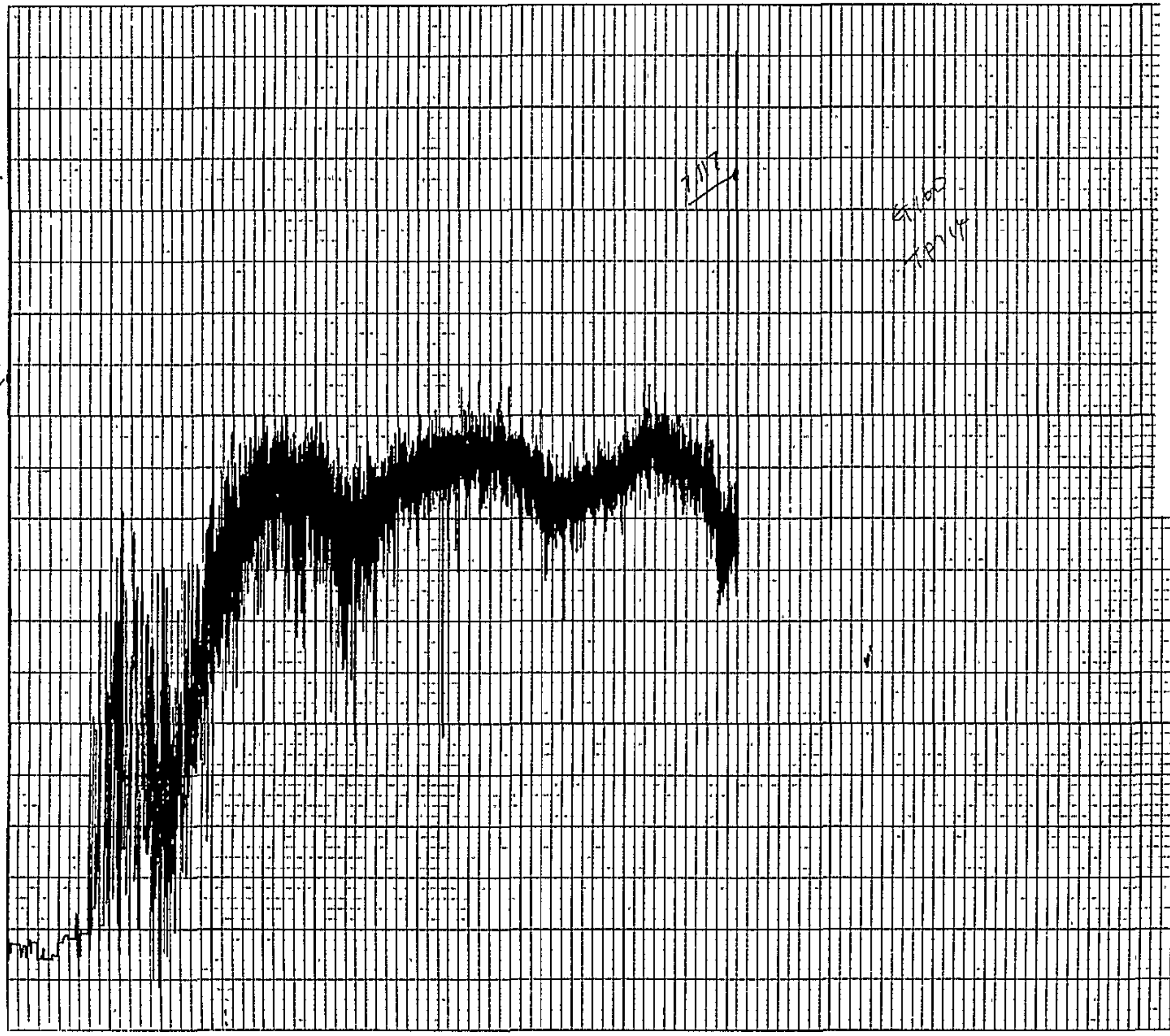
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

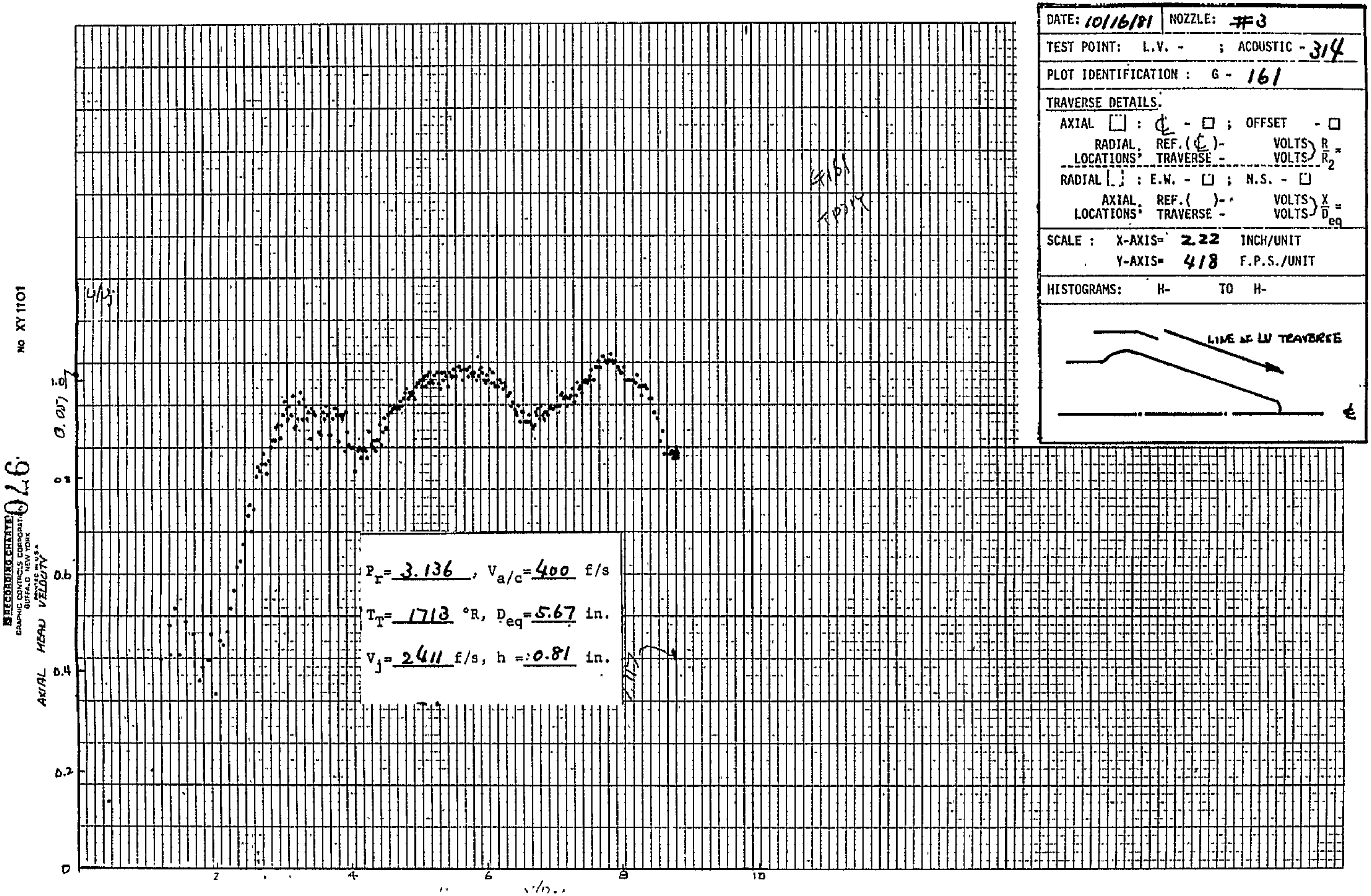
HISTOGRAMS: H- TO H-





NO XY 1101

969



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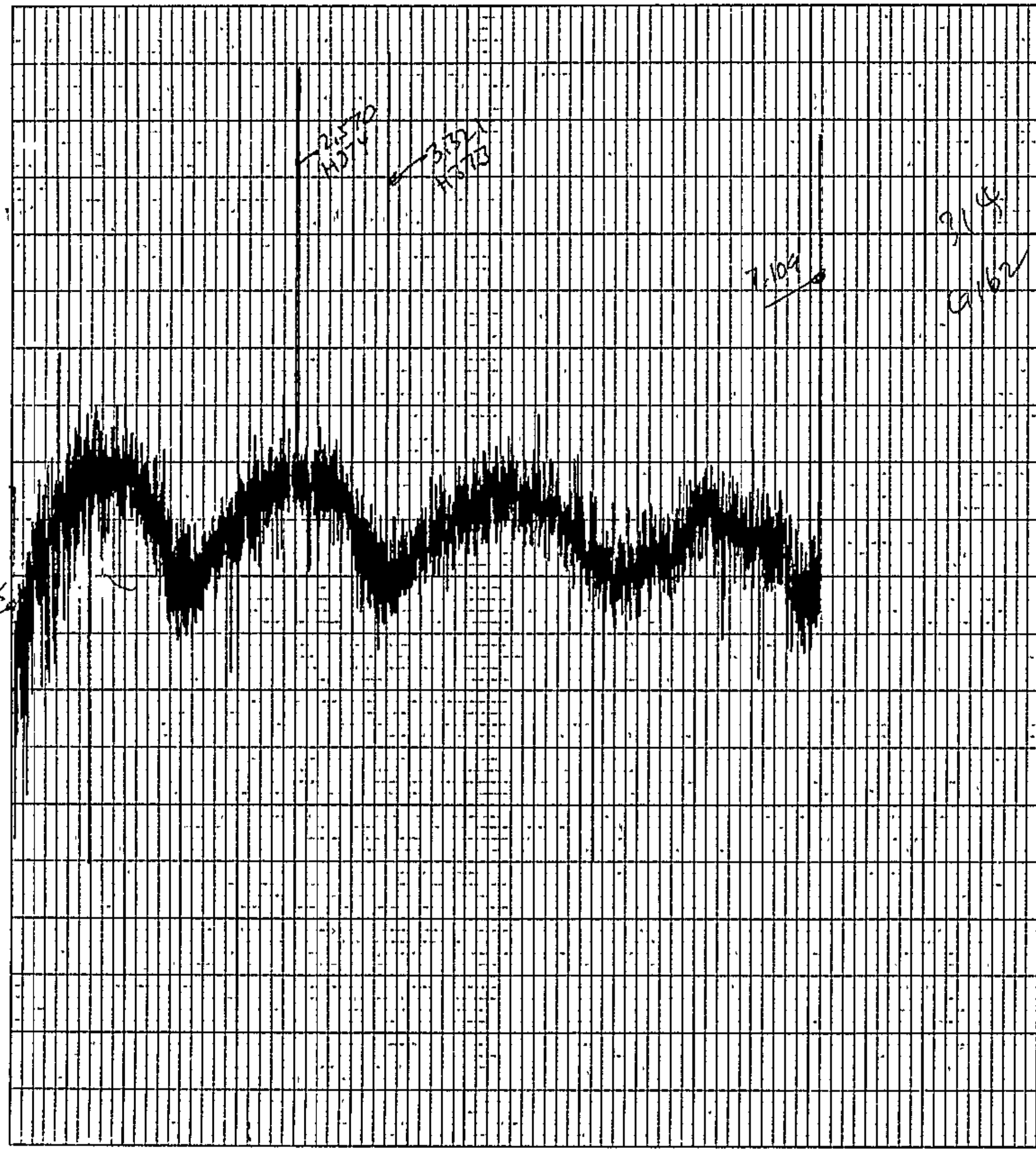


DATE: 10/16/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 162

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-

Diff...

and G1...

Paul demon...

was offset and effect of the offset can be determined by comparison of G162 with G156

At the outset, there appears to be no significant differences.

Hence none of the remaining shock traverses were repeated

DATE: 10/16/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 314

PLOT IDENTIFICATION : G - 163

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

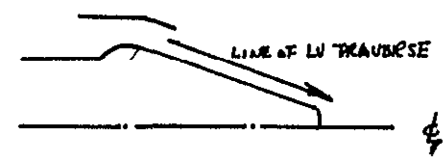
RADIAL [ ] : E.W. - □ ; N.S. - □

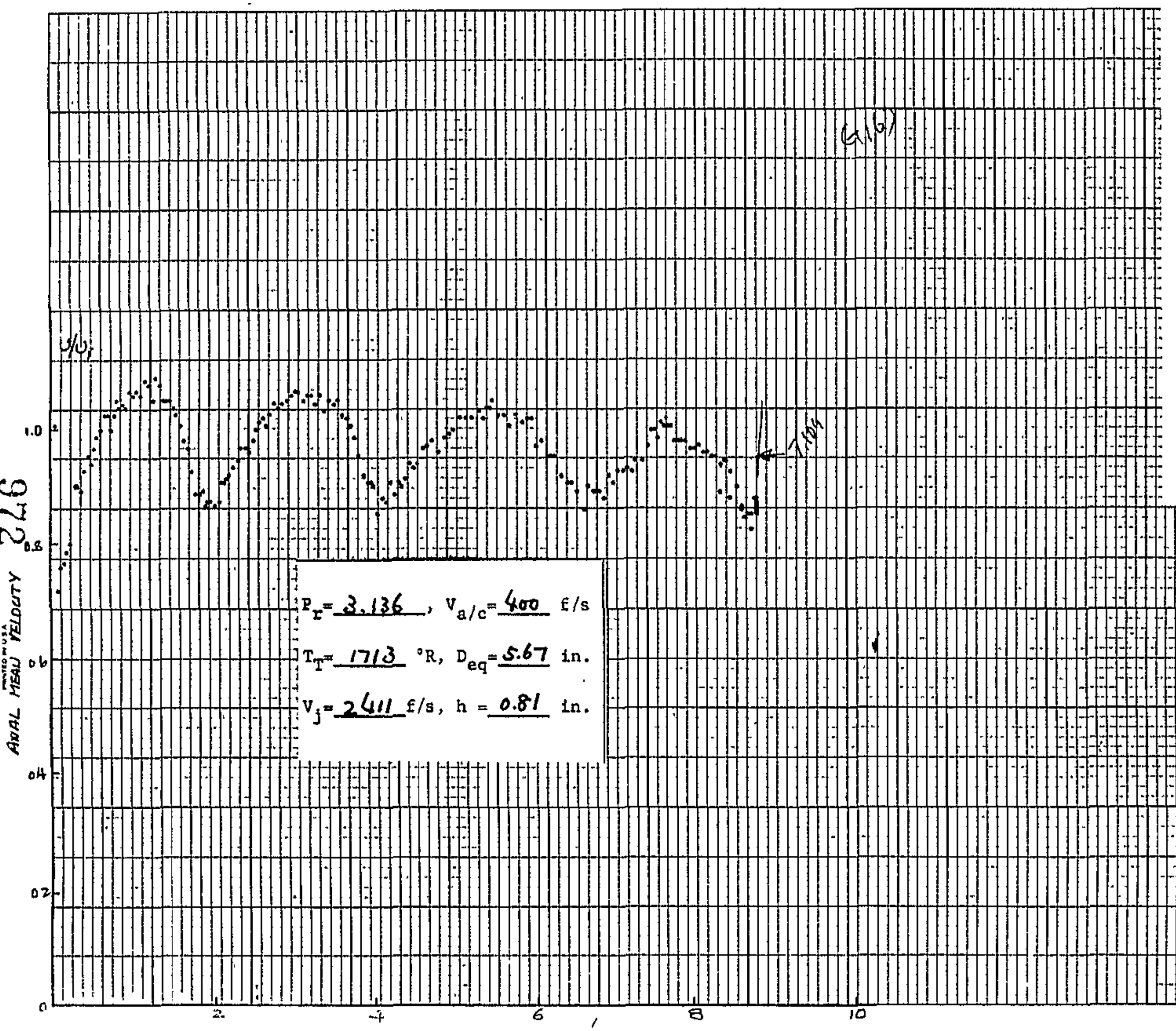
AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-



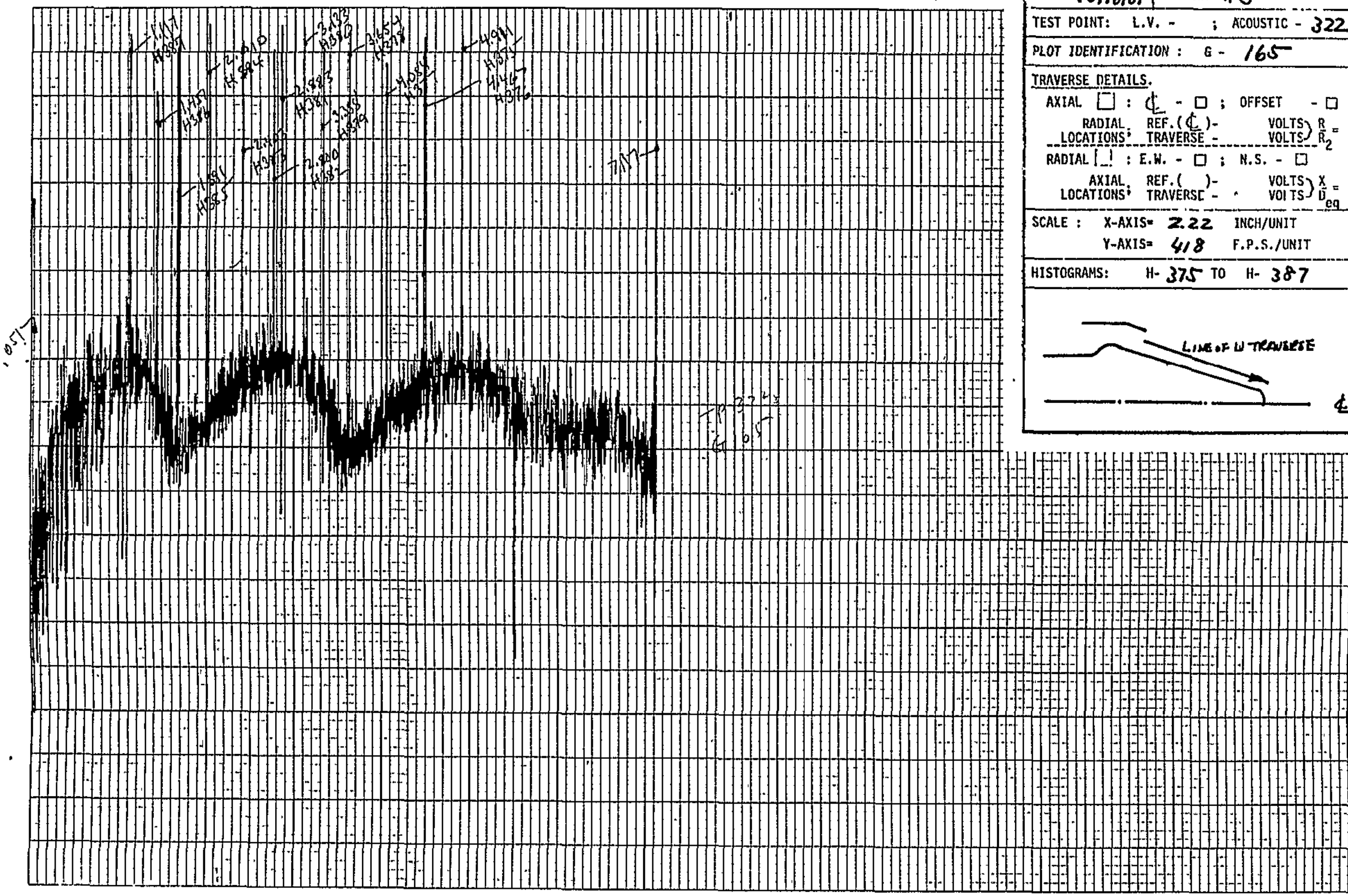


P_r = 3.136 , $V_{a/c}$ = 400 f/s

T_T = 1713 °R, D_{eq} = 5.67 in.

V_j = 2411 f/s, h = 0.81 in.

276



DATE: 10/16/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 322

PLOT IDENTIFICATION : G - 165

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS } R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS } X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- 375 TO H- 387

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DATE: 10/16/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 322

PLOT IDENTIFICATION : G - 166

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS } $\frac{R}{R_2}$ = VOLTS

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS } $\frac{X}{D_{eq}}$ = VOLTS

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-

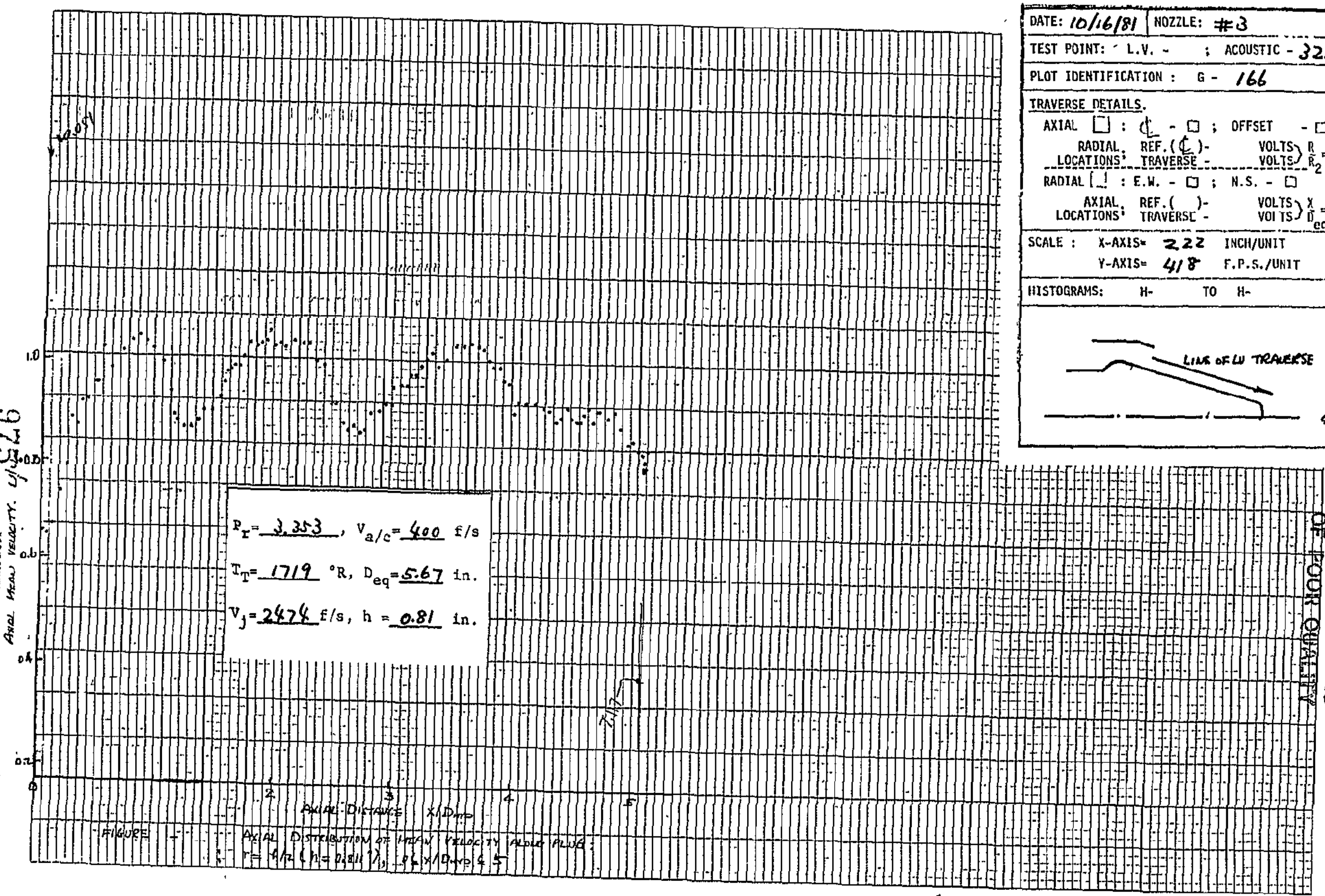

FIGURE - AXIAL DISTRIBUTION OF MEAN VELOCITY ALONG PLUG ; r = h/2 (h = 0.811"), 0 ≤ X/D_{eq} ≤ 5

C-216

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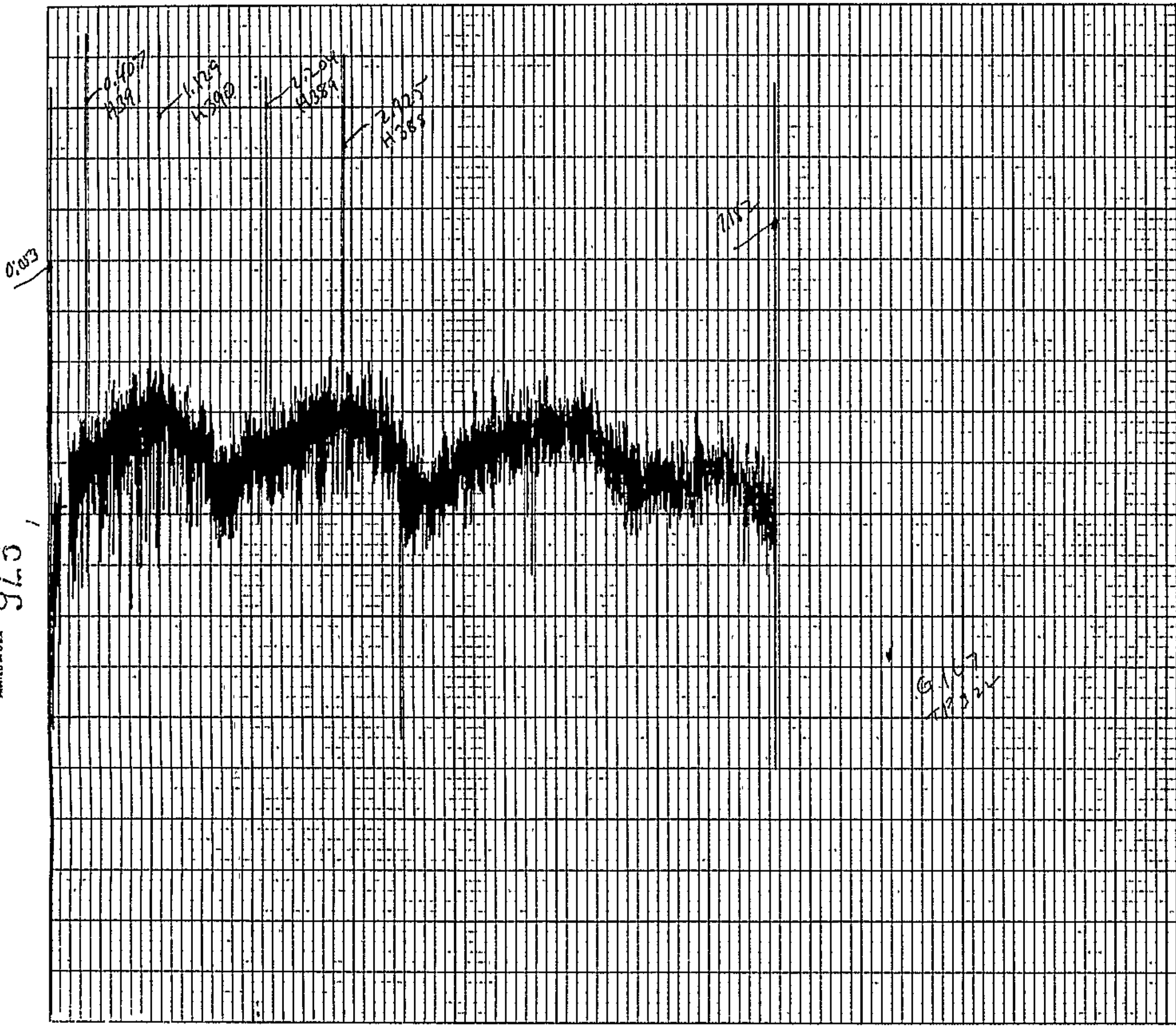


DATE: 10/16/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 322

PLOT IDENTIFICATION : G - 167

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

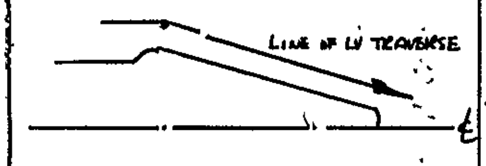
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H-388 TO H-391



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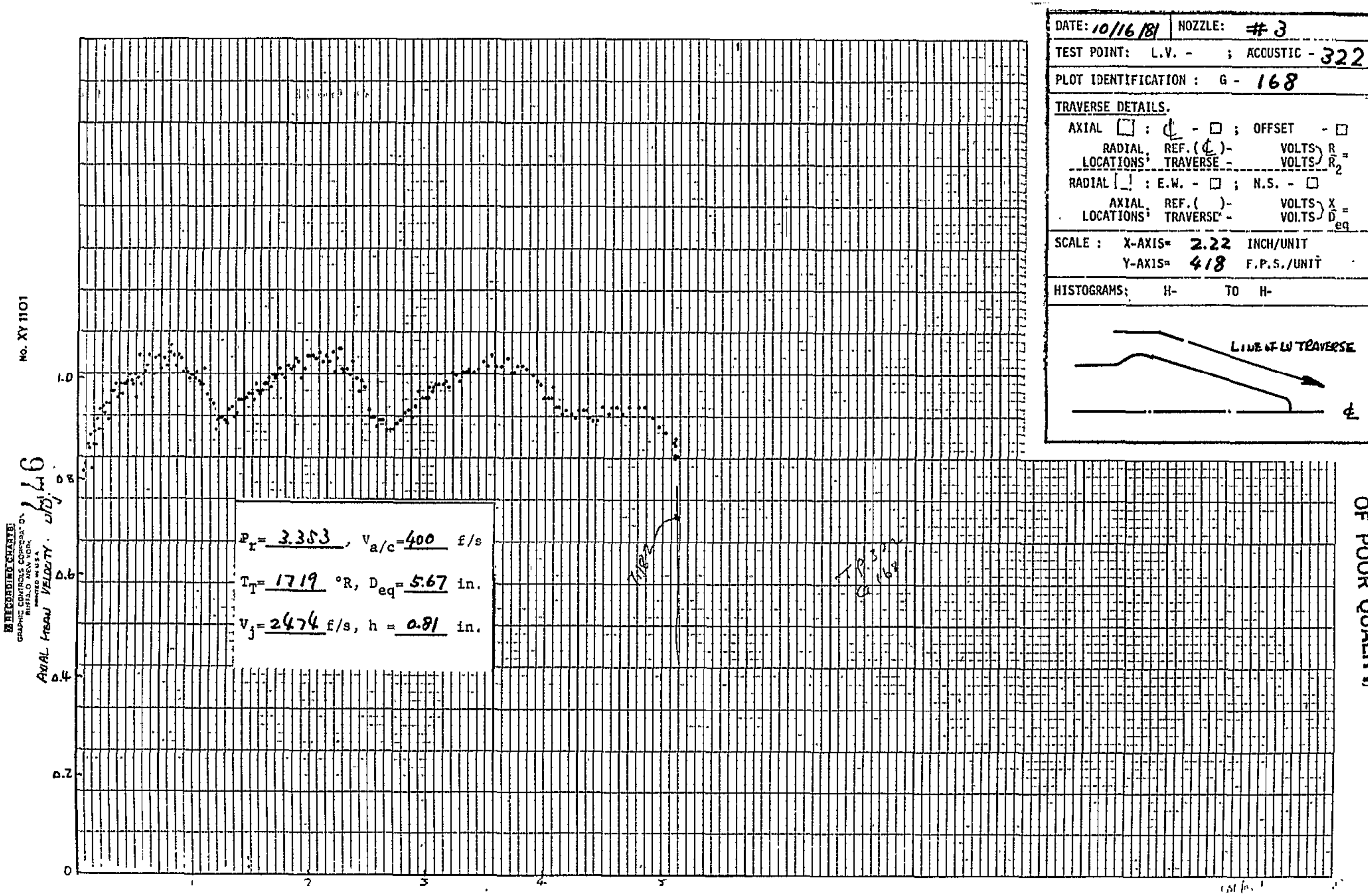

P_r = 3.353, $V_{a/c}$ = 400 f/s

T_T = 1719 °R, D_{eq} = 5.67 in.

V_j = 2474 f/s, h = 0.81 in.

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NO XY 1101

DATE: 10/16/81	NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 322

PLOT IDENTIFICATION : G - 170

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 = 0

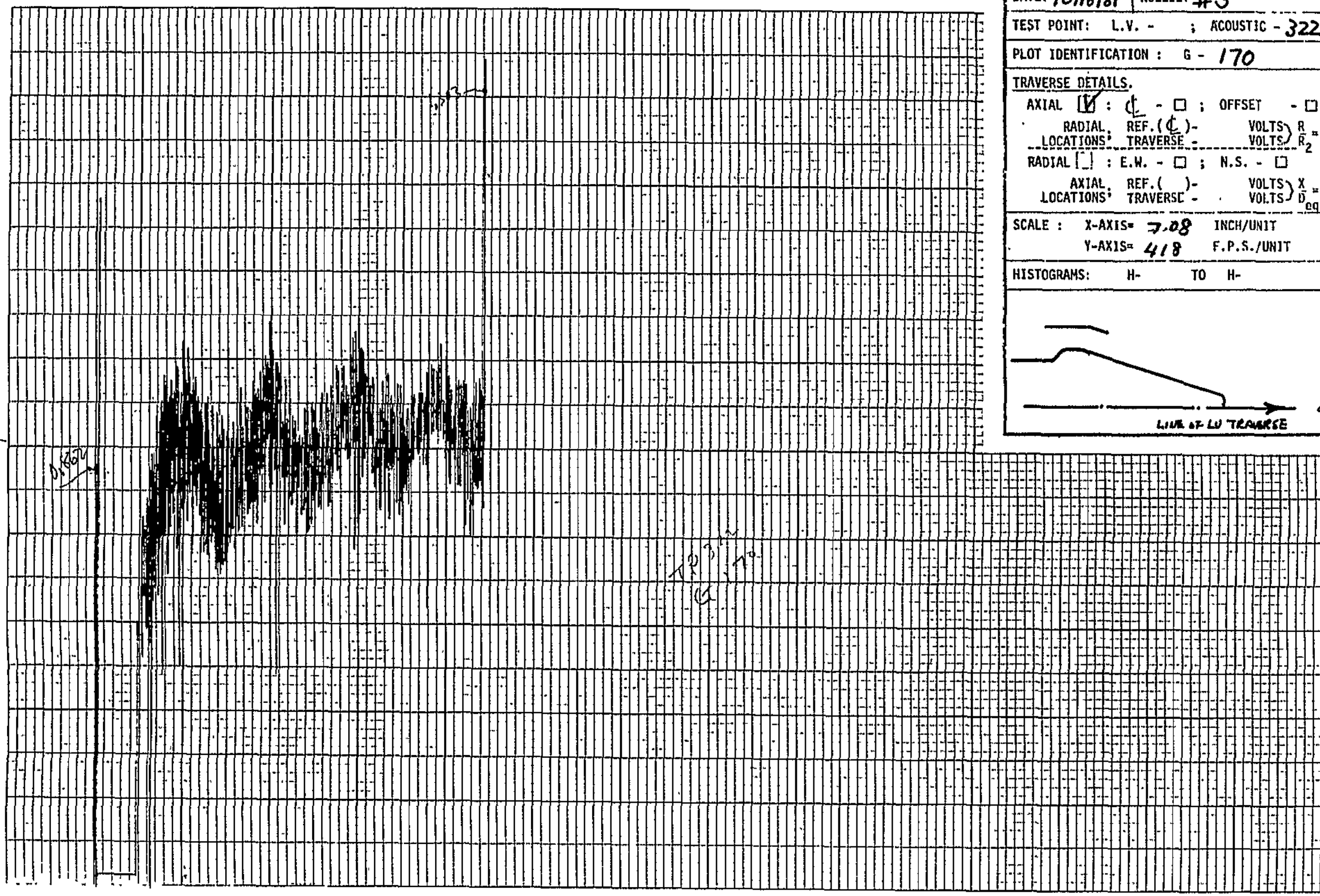
RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 418 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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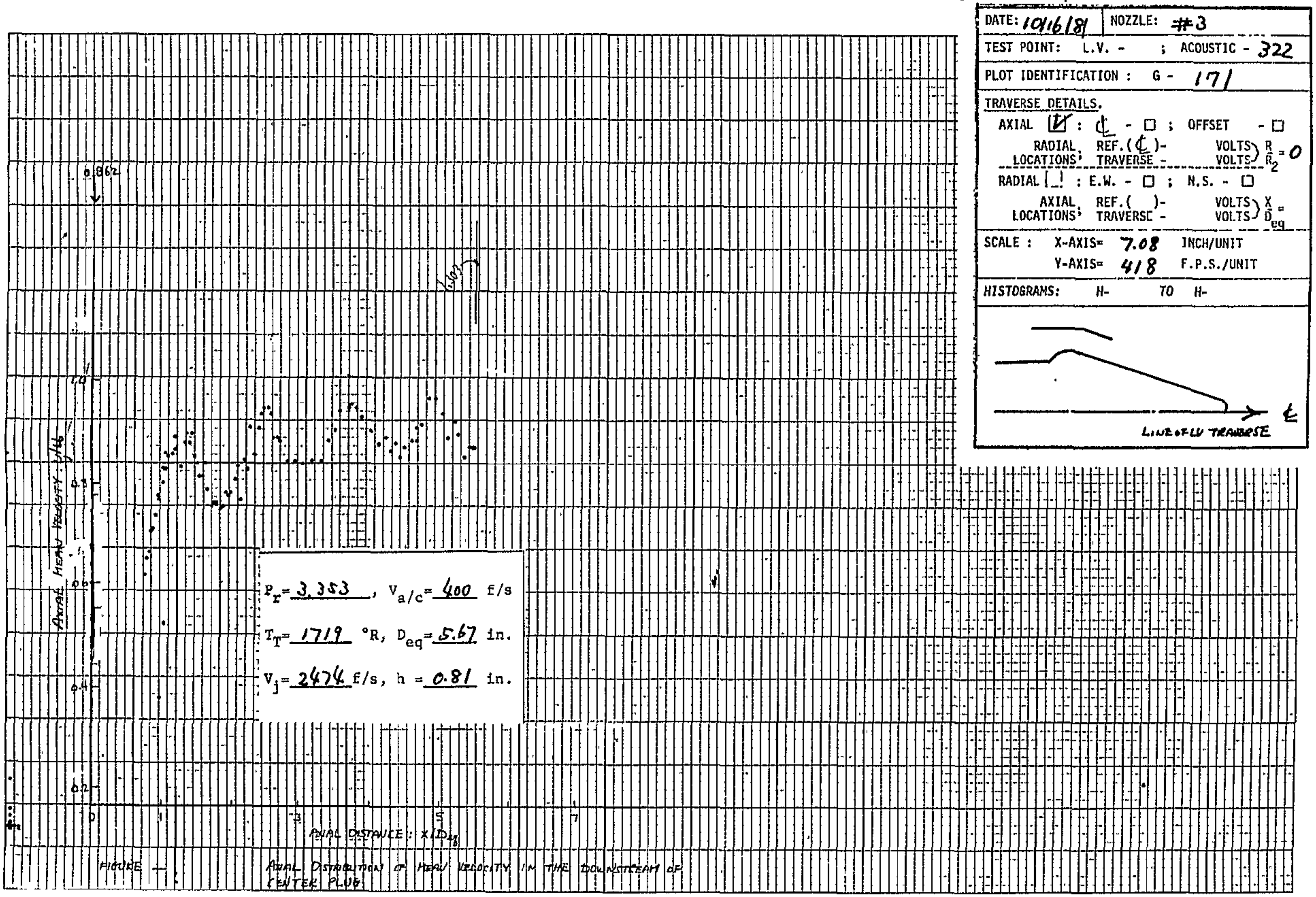

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DATE: 10/20/81	NOZZLE: # 3
TEST POINT: L.V. - ; ACOUSTIC - 322	
PLOT IDENTIFICATION : G - 174	

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

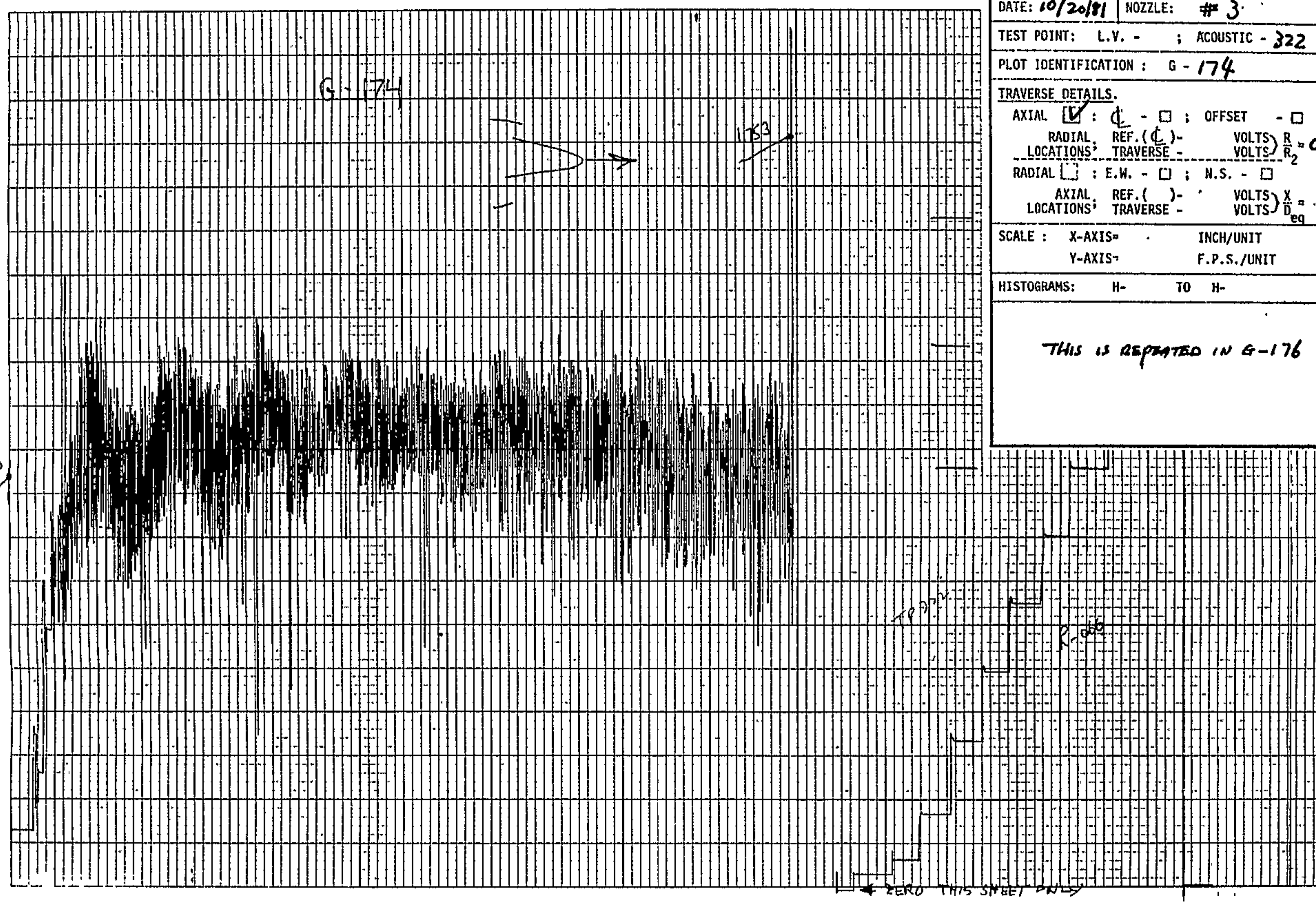
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= INCH/UNIT

Y-AXIS= F.P.S./UNIT

HISTOGRAMS: H- TO H-

THIS IS REPEATED IN G-176



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DATE: 10/20/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 322	
PLOT IDENTIFICATION : G - 175	

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

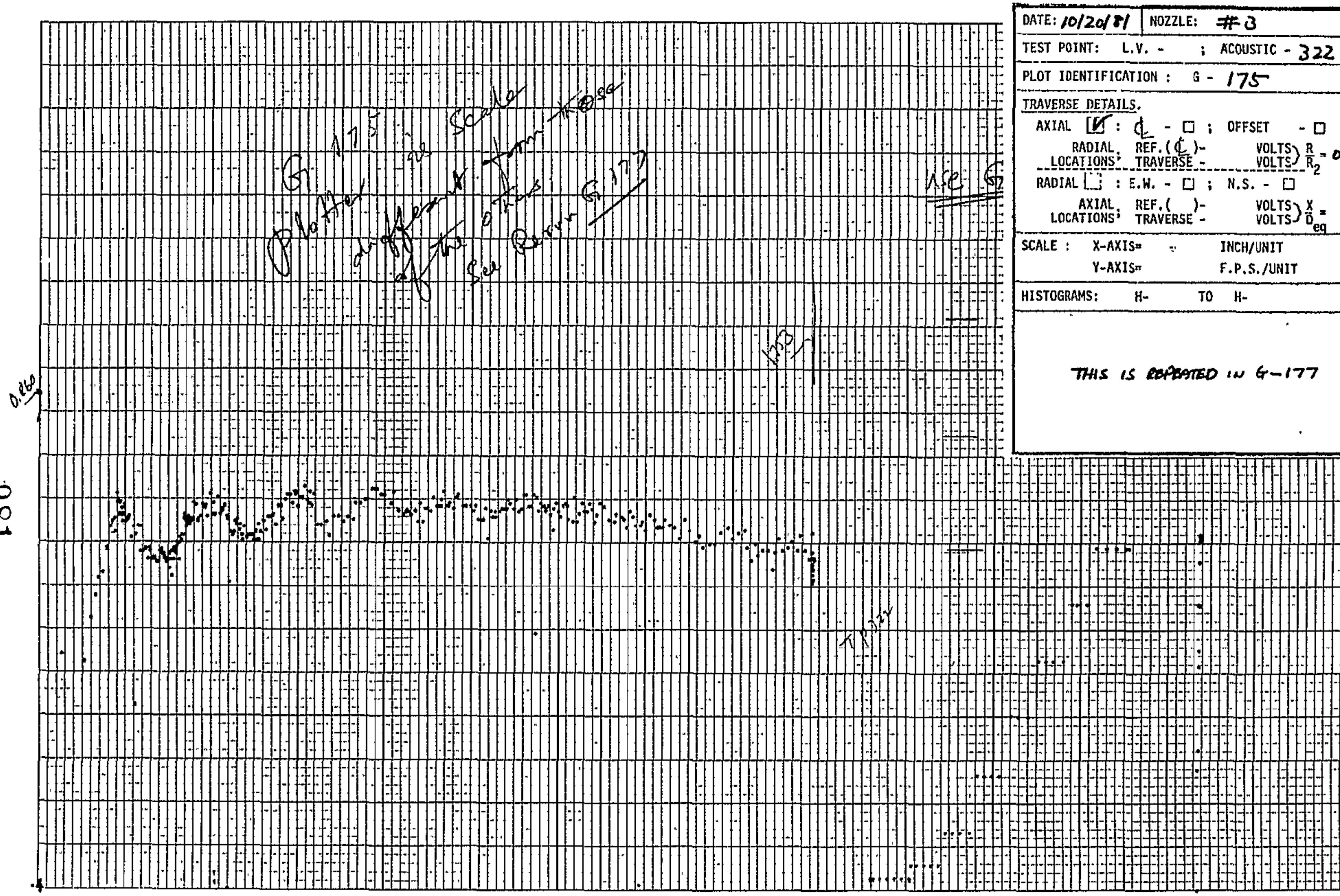
AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= INCH/UNIT

Y-AXIS= F.P.S./UNIT

HISTOGRAMS: H- TO H-

THIS IS REPEATED IN G-177



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DATE: 10/20/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 322

PLOT IDENTIFICATION : G - 176

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

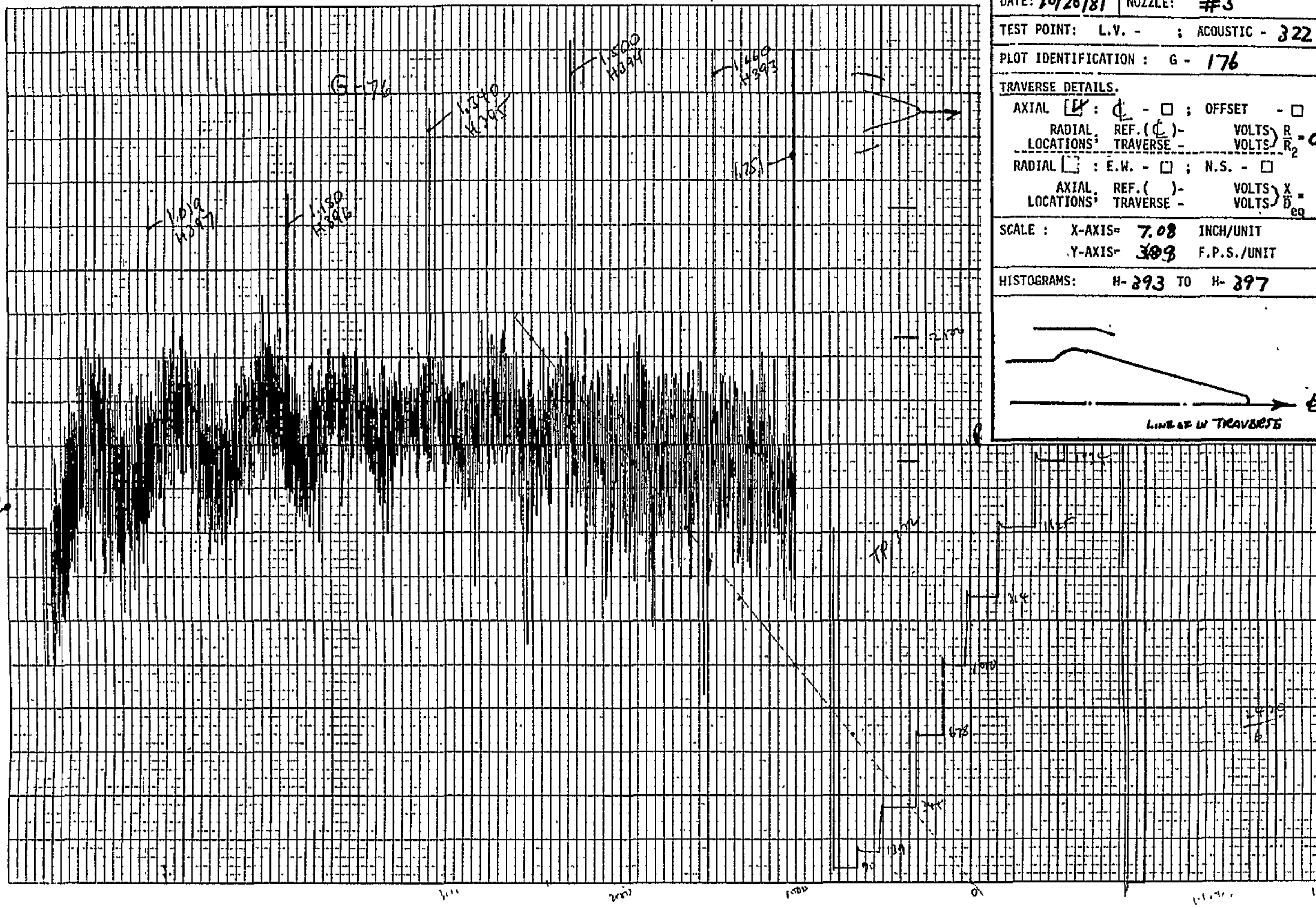
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 309 F.P.S./UNIT

HISTOGRAMS: H- 393 TO H- 397

LINE OF ℄ TRAVERSE



286

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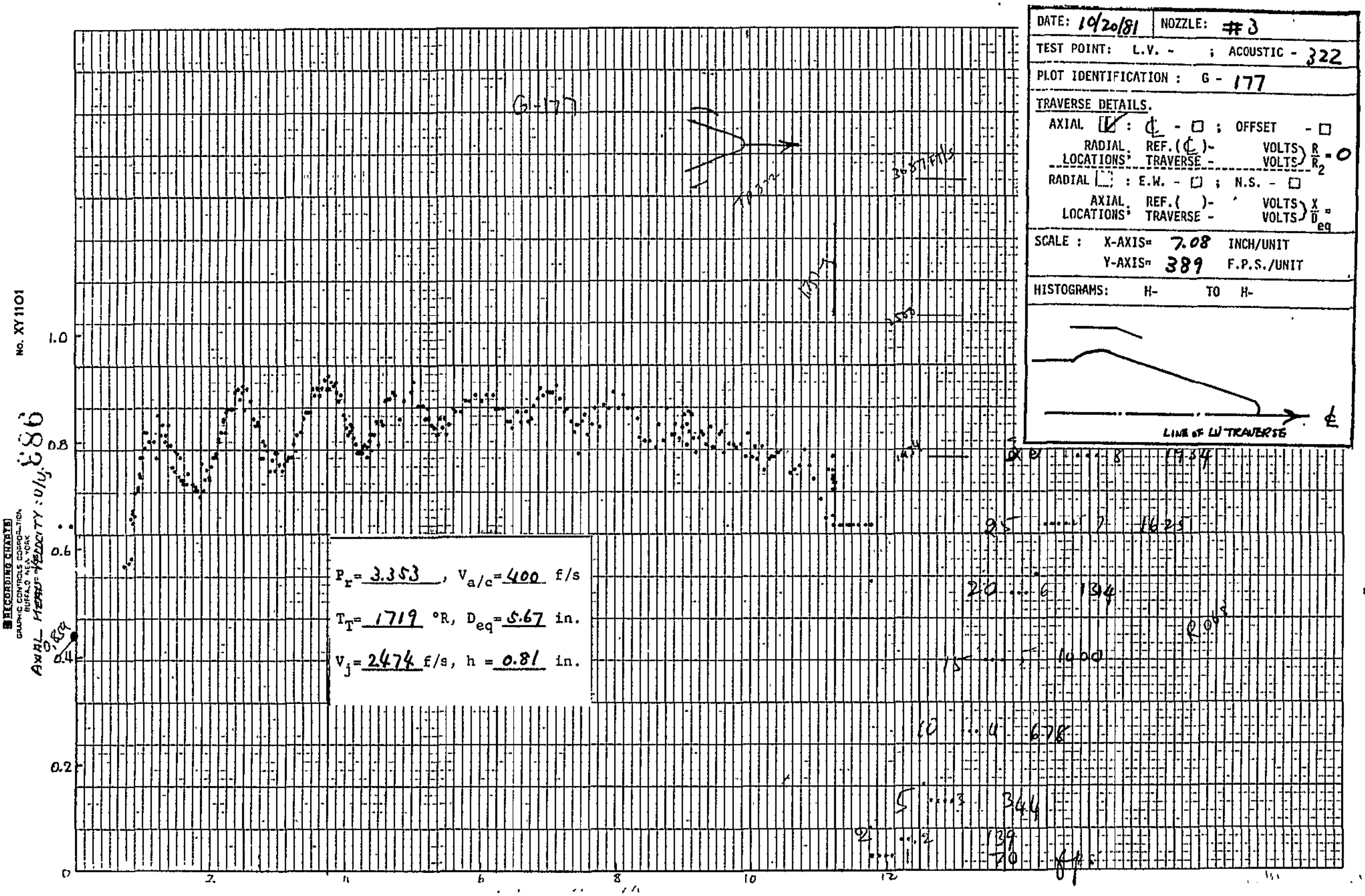
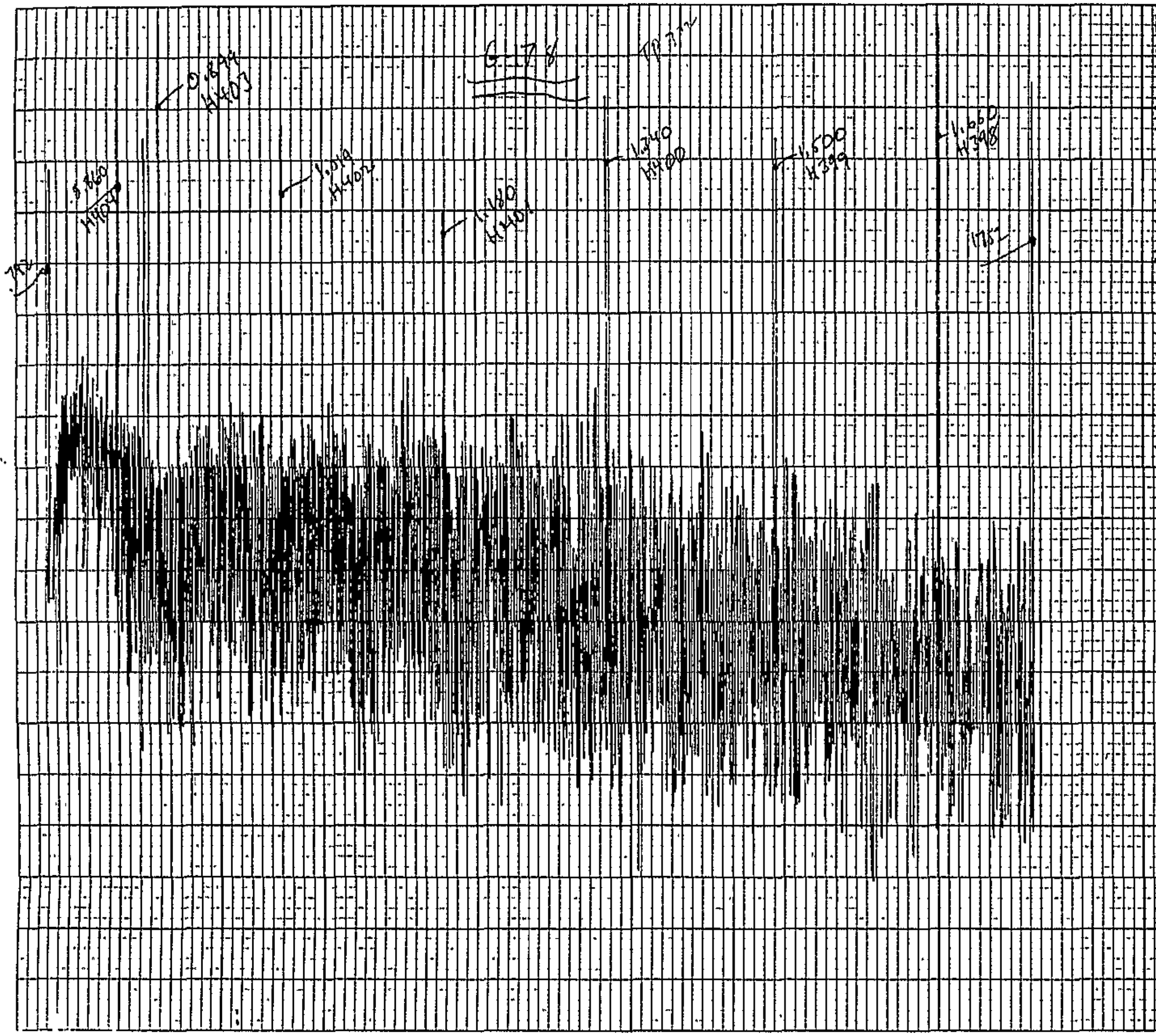

DATE: 10/20/81
NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 322
PLOT IDENTIFICATION : G - 177
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE -
VOLTS/VOLTS R/R2 = 0
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE -
VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 389 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
G-177
P_r= 3.353 , $V_{a/c}$= 400 f/s
T_T= 1719 °R, D_{eq}= 5.67 in.
V_j= 2474 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY : U/U_j
1.0
0.8
0.6
0.4
0.2
0
2
4
6
8
10
12
NO. XY1101
RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK
1934
1625
1314
1000
678
344
139
f/s



DATE: 10/20/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 322

PLOT IDENTIFICATION : G - 178

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

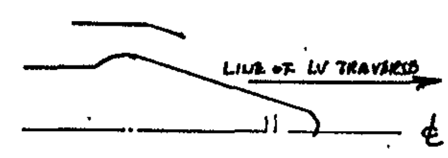
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 889 F.P.S./UNIT

HISTOGRAMS: H- 398 TO H- 405



384

NO XY 1101

DATE: 10/20/81 | NOZZLE: #3

TEST POINT: L.V. - ; ACOUSTIC - 322

PLOT IDENTIFICATION : G - 179

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

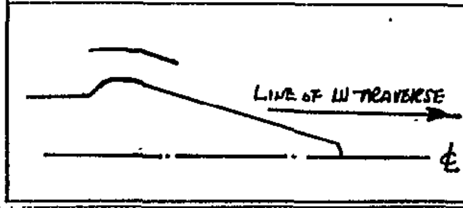
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

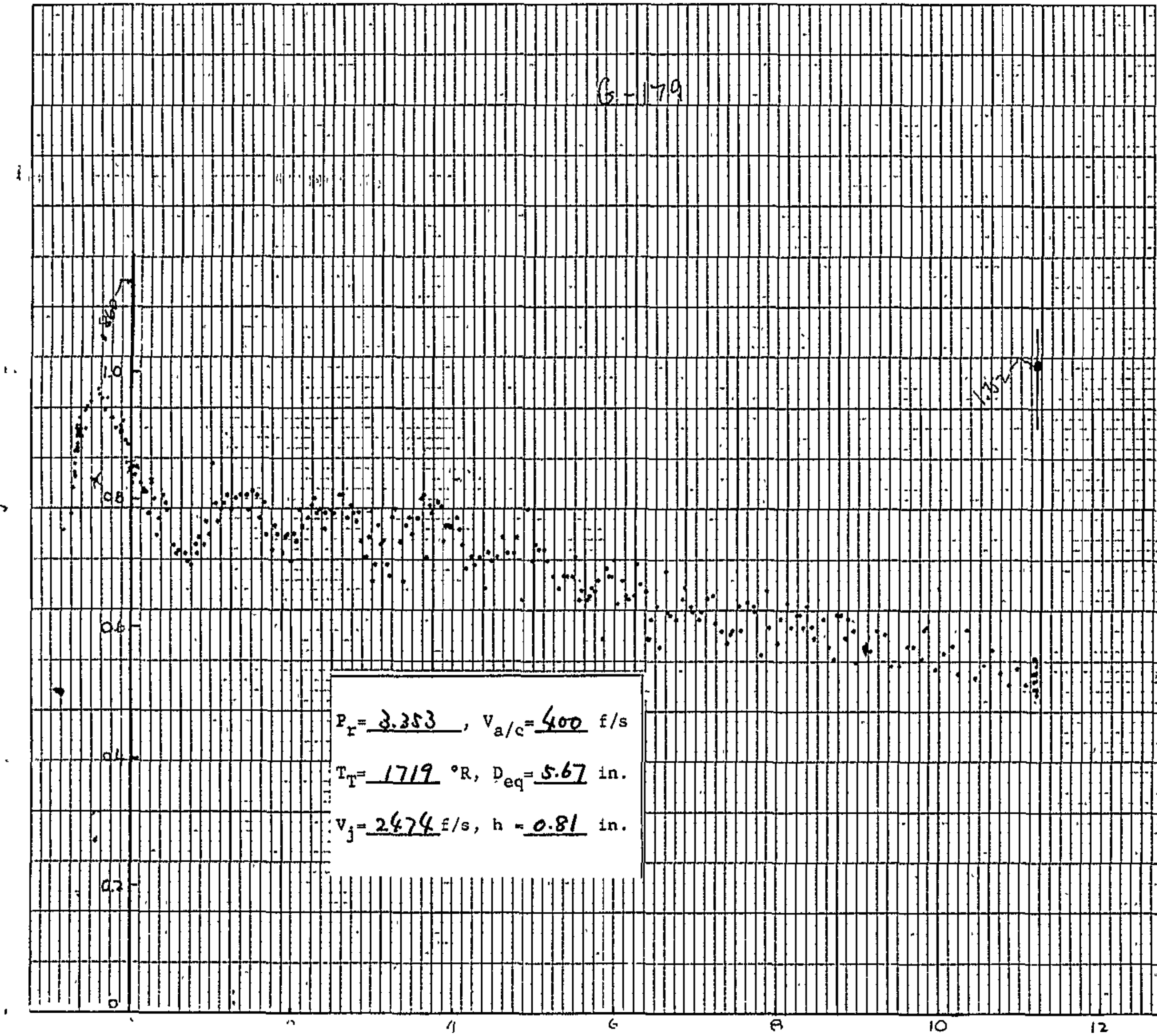
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 389 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 10/20/81	NOZZLE: # 3
TEST POINT: L.V. - ; ACOUSTIC - 322	
PLOT IDENTIFICATION : G - 180	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS / VOLTS } R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

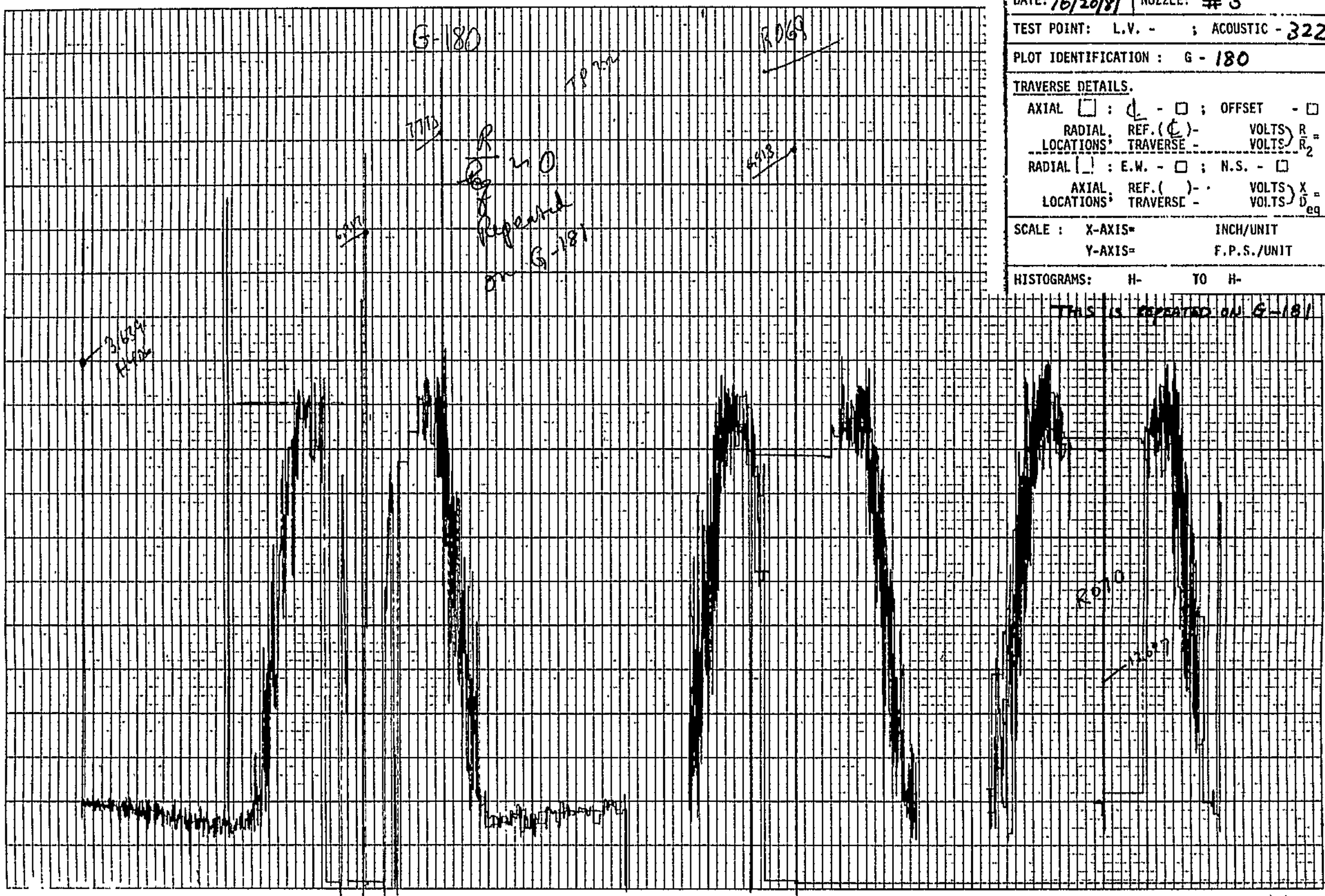
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS } X/D_{eq} =

SCALE : X-AXIS= INCH/UNIT

Y-AXIS= F.P.S./UNIT

HISTOGRAMS: H- TO H-

THIS IS REPEATED ON G-181



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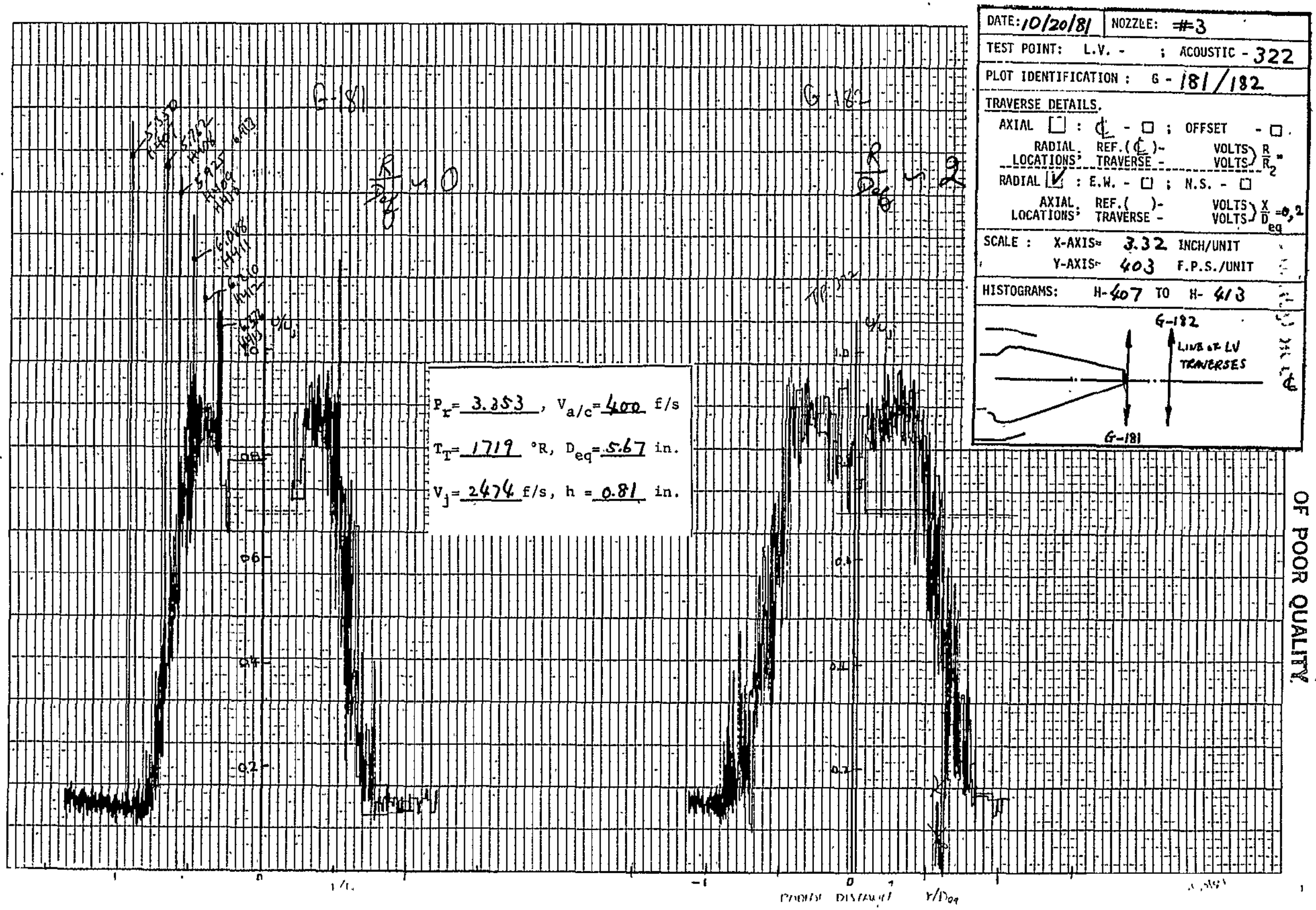

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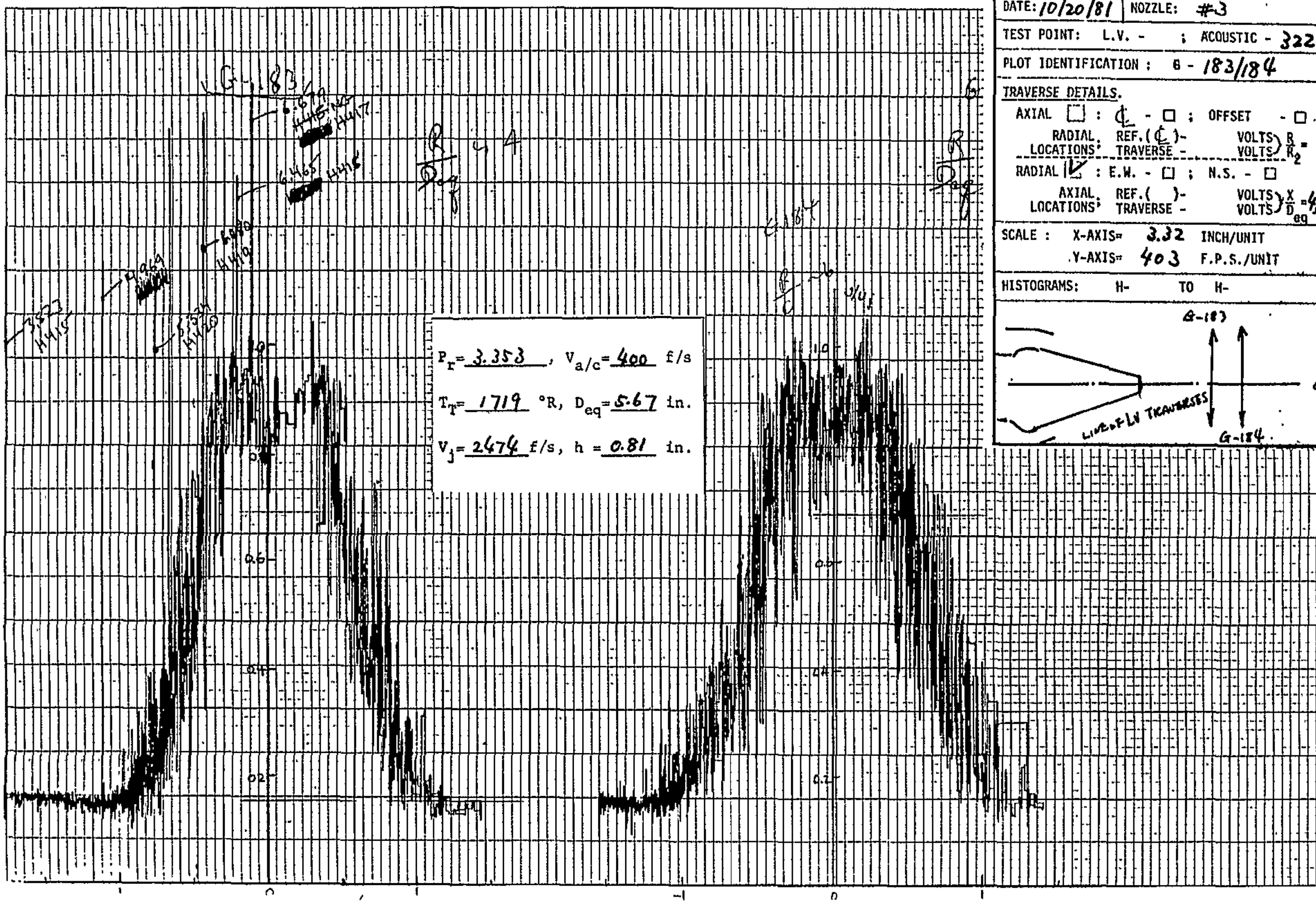
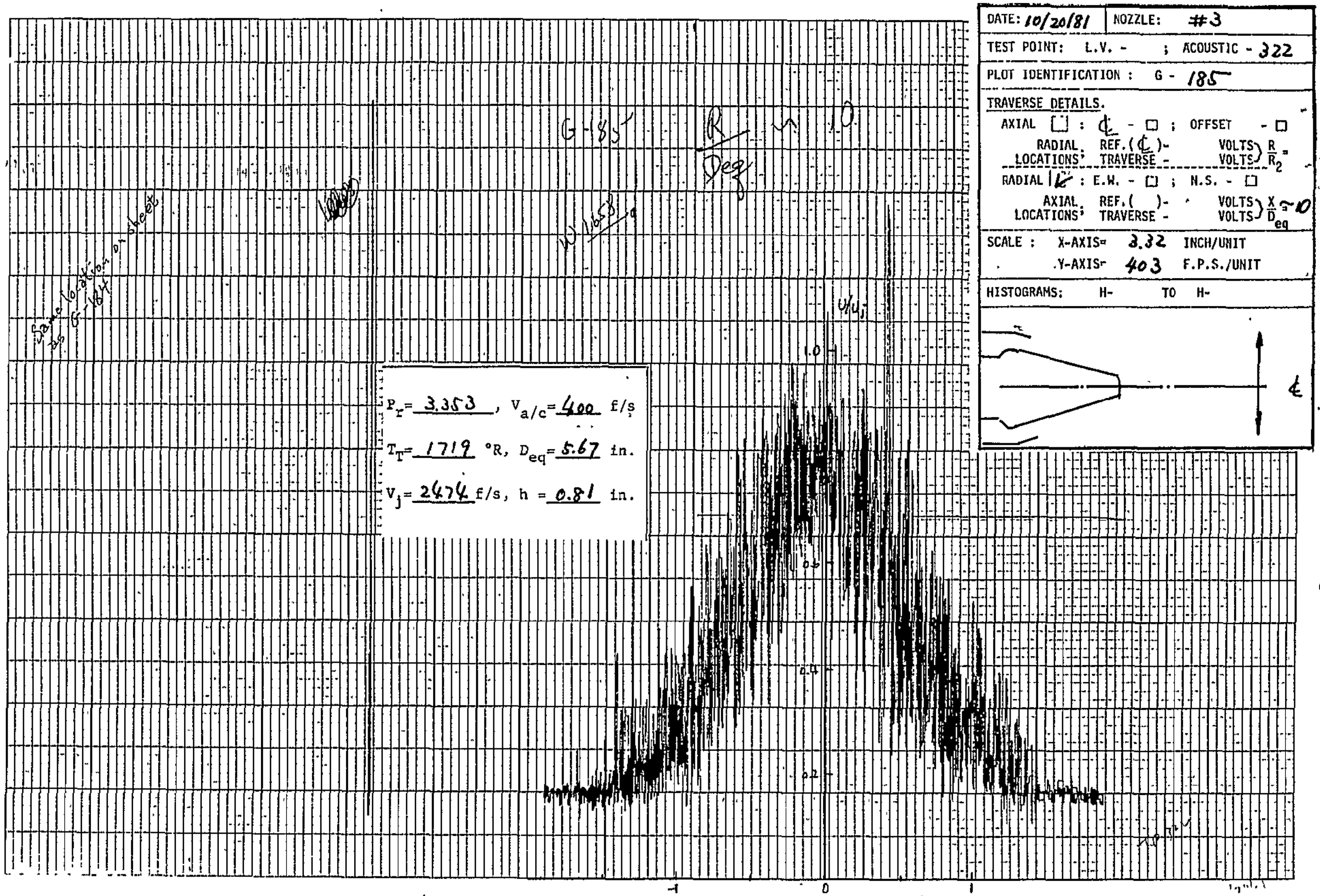
DATE: 10/20/81 | NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 322
PLOT IDENTIFICATION : G - 183/184
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 4.6
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 403 F.P.S./UNIT
HISTOGRAMS: H- TO H-

P_r = 3.353 , $V_{a/c}$ = 400 f/s
T_T = 1719 °R, D_{eq} = 5.67 in.
V_j = 2474 f/s, h = 0.81 in.



NO XY 1101

388



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DATE: 10/20/81	NOZZLE: #3
TEST POINT: L.V. - ; ACOUSTIC - 322	
PLOT IDENTIFICATION : G - 186	

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS $\frac{R}{R_2}$ =

RADIAL [✓] : E.W. - □ ; N.S. - □

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS $\frac{X}{D_{eq}} \approx 8$

SCALE : X-AXIS= 3.32 INCH/UNIT

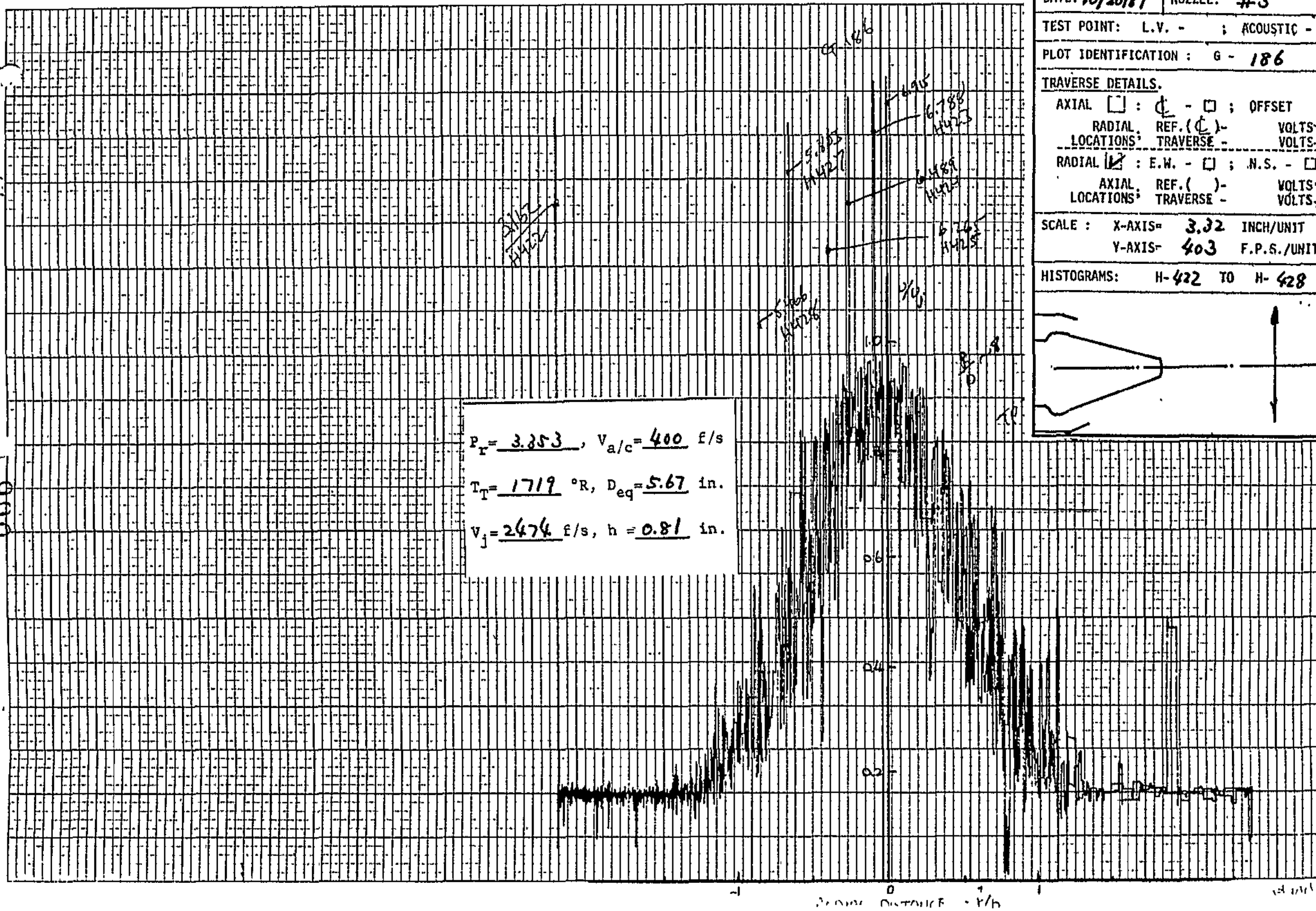
Y-AXIS= 403 F.P.S./UNIT

HISTOGRAMS: H-422 TO H-428

P_r = 3.353, $V_{a/c}$ = 400 f/s

T_T = 1719 °R, D_{eq} = 5.67 in.

V_j = 2474 f/s, h = 0.81 in.



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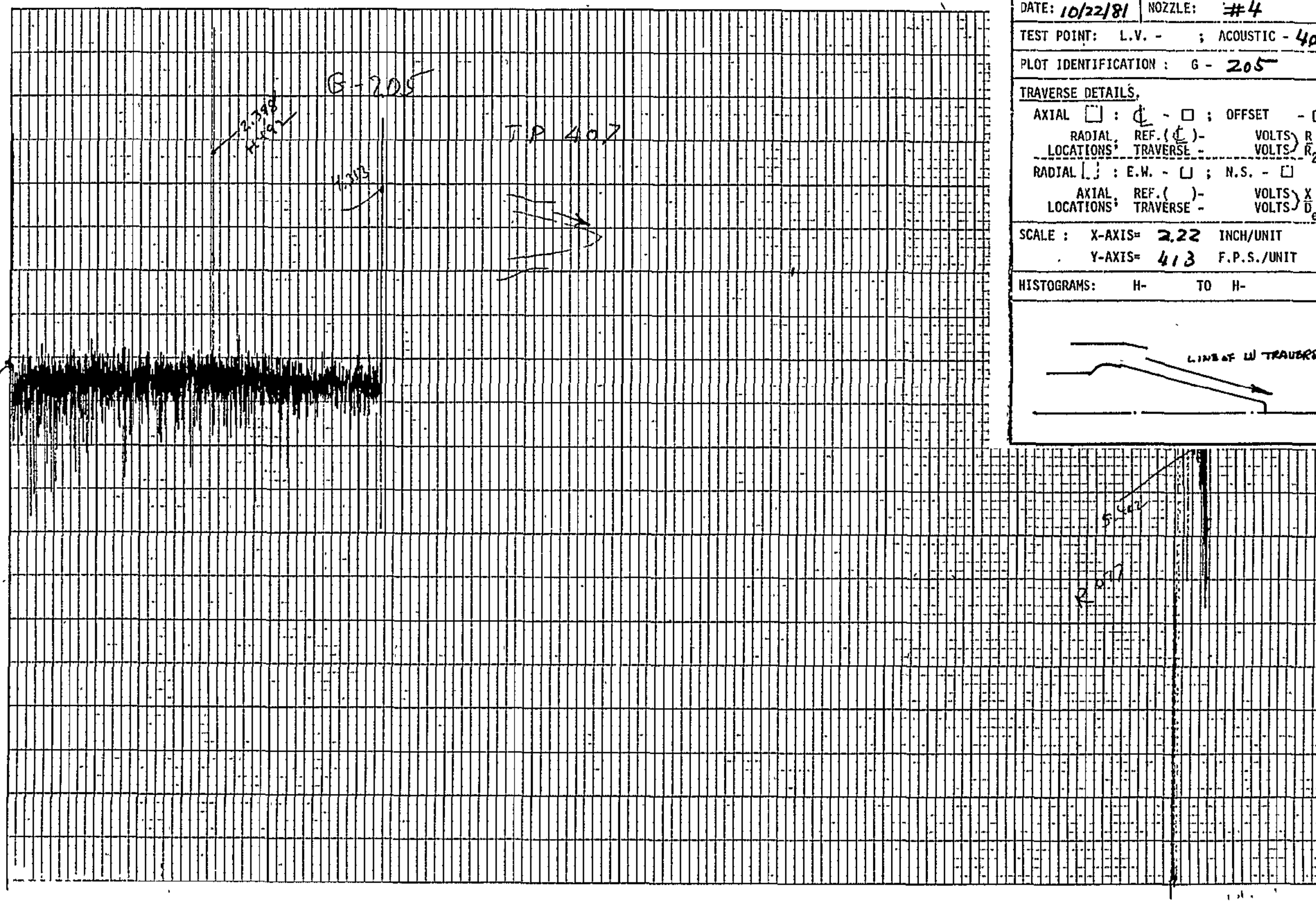
Model 4
Test Point 407

993



DATE: 10/22/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 409

PLOT IDENTIFICATION : G - 205

TRAVERSE DETAILS,

AXIAL □ : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

RADIAL □ : E.W. - □ ; N.S. - □

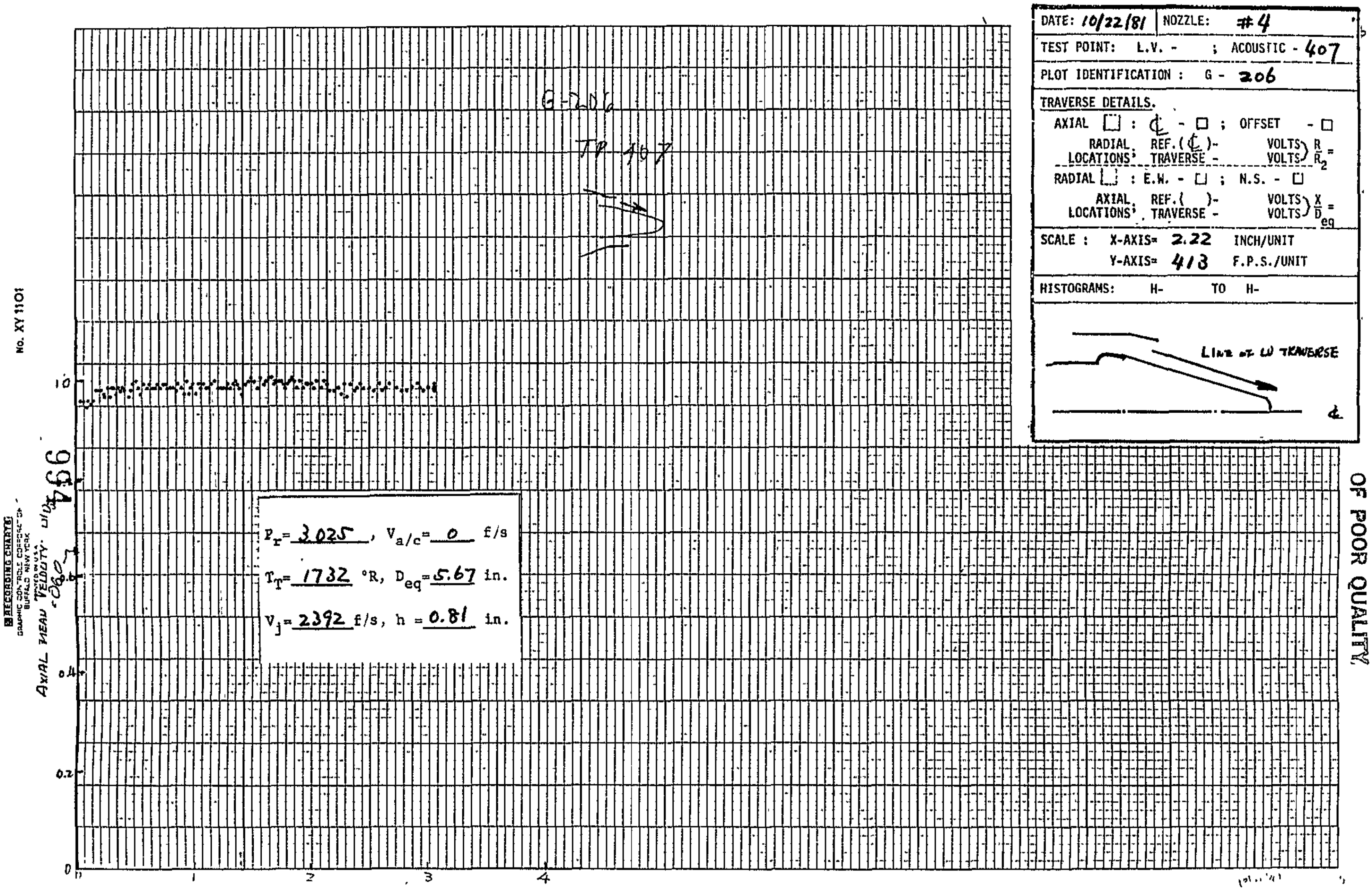
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE



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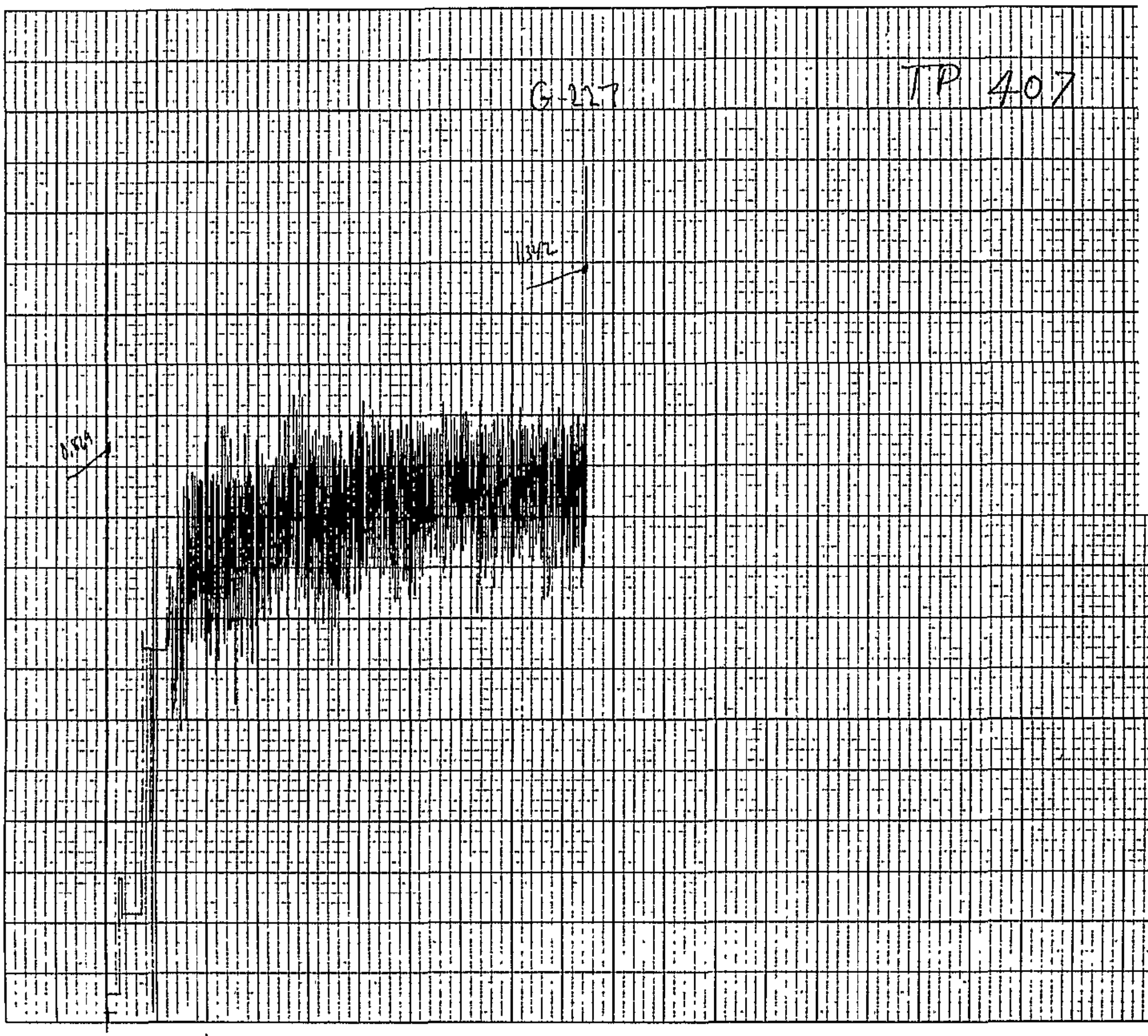
No XY 1101

995-



DATE: 10/26/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 407

PLOT IDENTIFICATION : G - 227

TRAVERSE DETAILS:

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

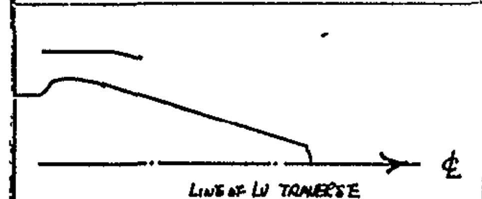
RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 10/26/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 407

PLOT IDENTIFICATION : G - 228

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF. (℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2} = 0$

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

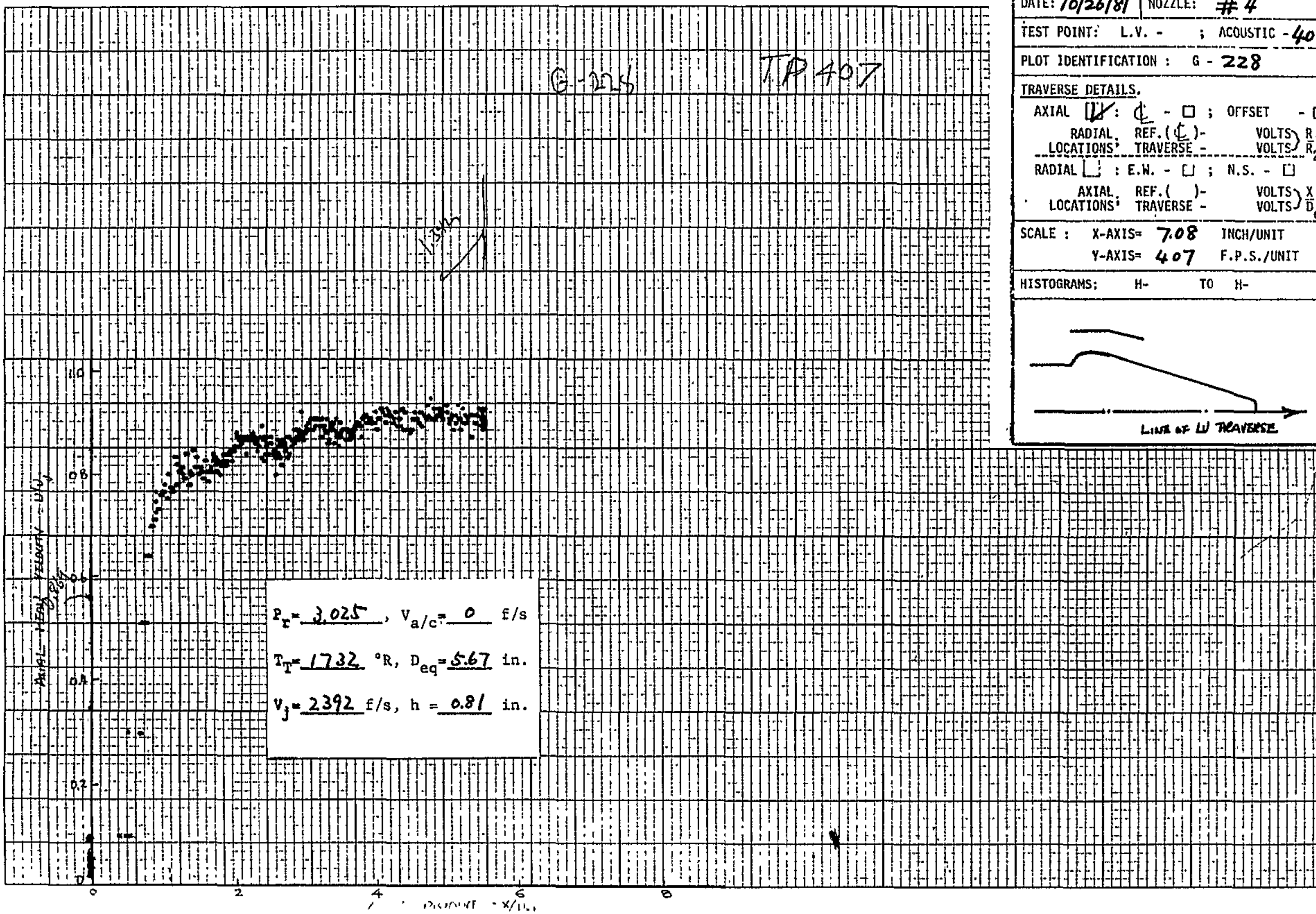
AXIAL LOCATIONS, REF. ( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE ℄



966

No XY 1101

866

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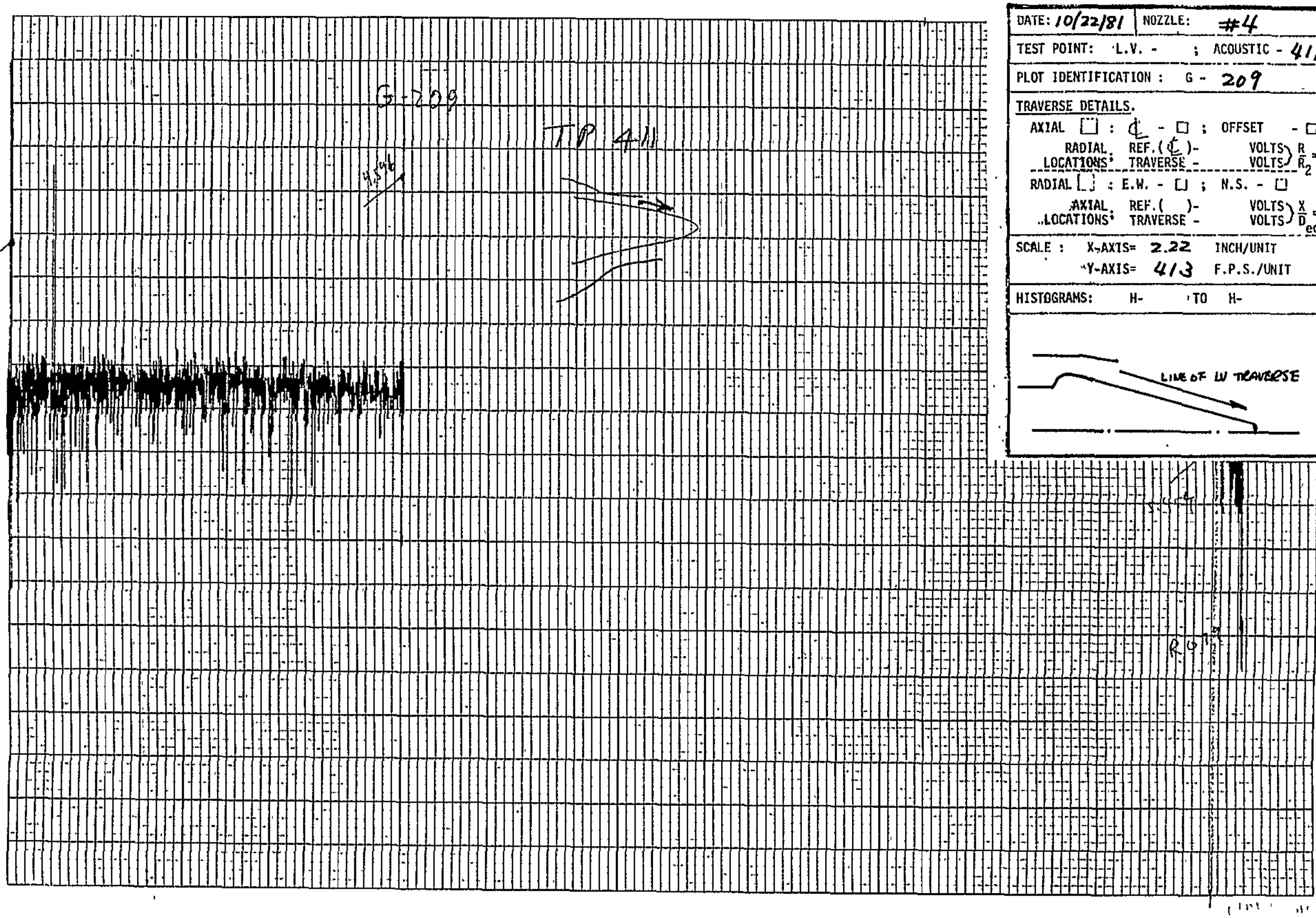

DATE: 10/22/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 411

PLOT IDENTIFICATION : G - 209

TRAVERSE DETAILS.

AXIAL □ : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS } R/R_2 =

RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS } X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄

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OF POOR QUALITY

DATE: 10/22/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 411

PLOT IDENTIFICATION : G - 210

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R_2 =

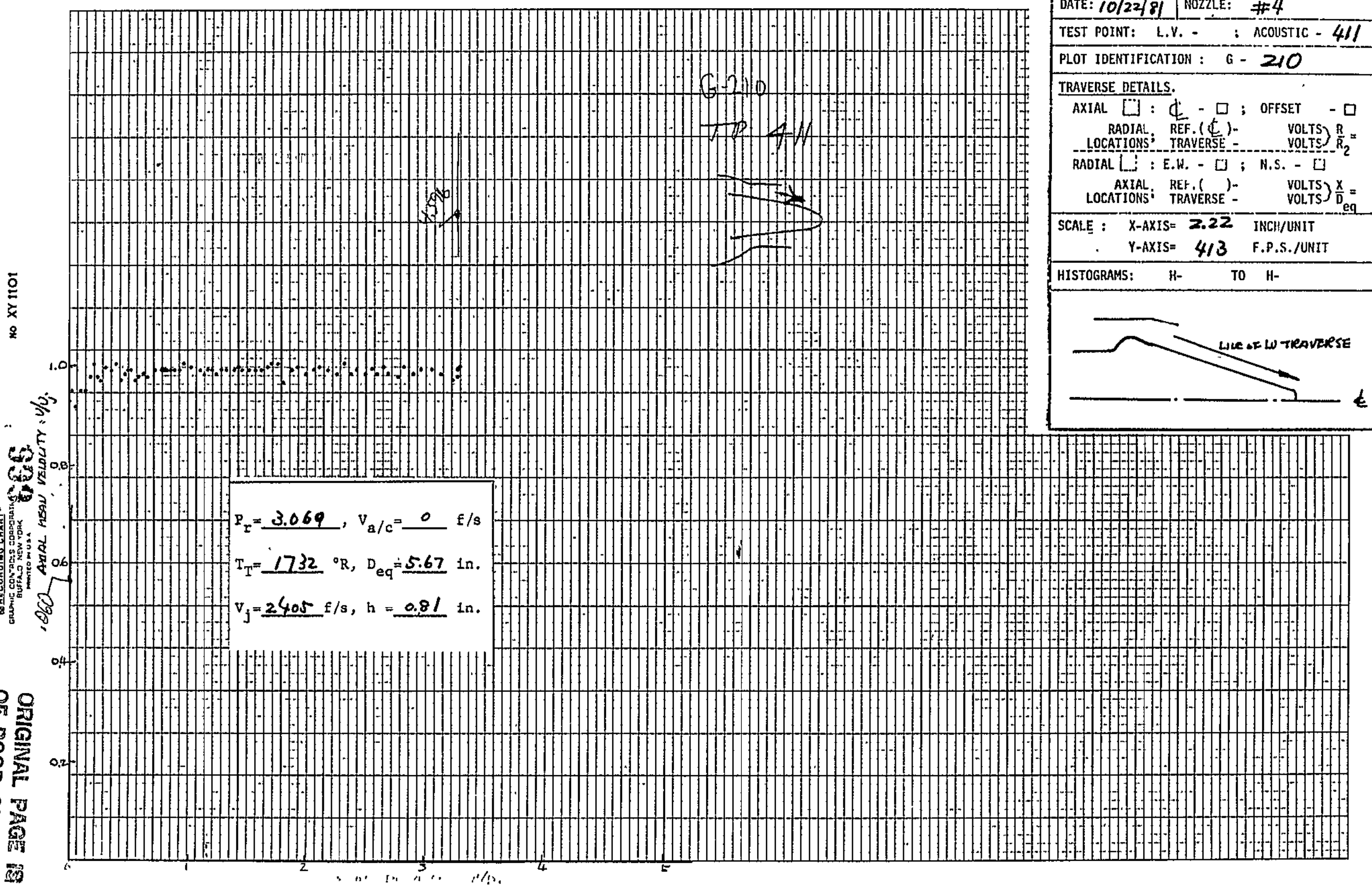
RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

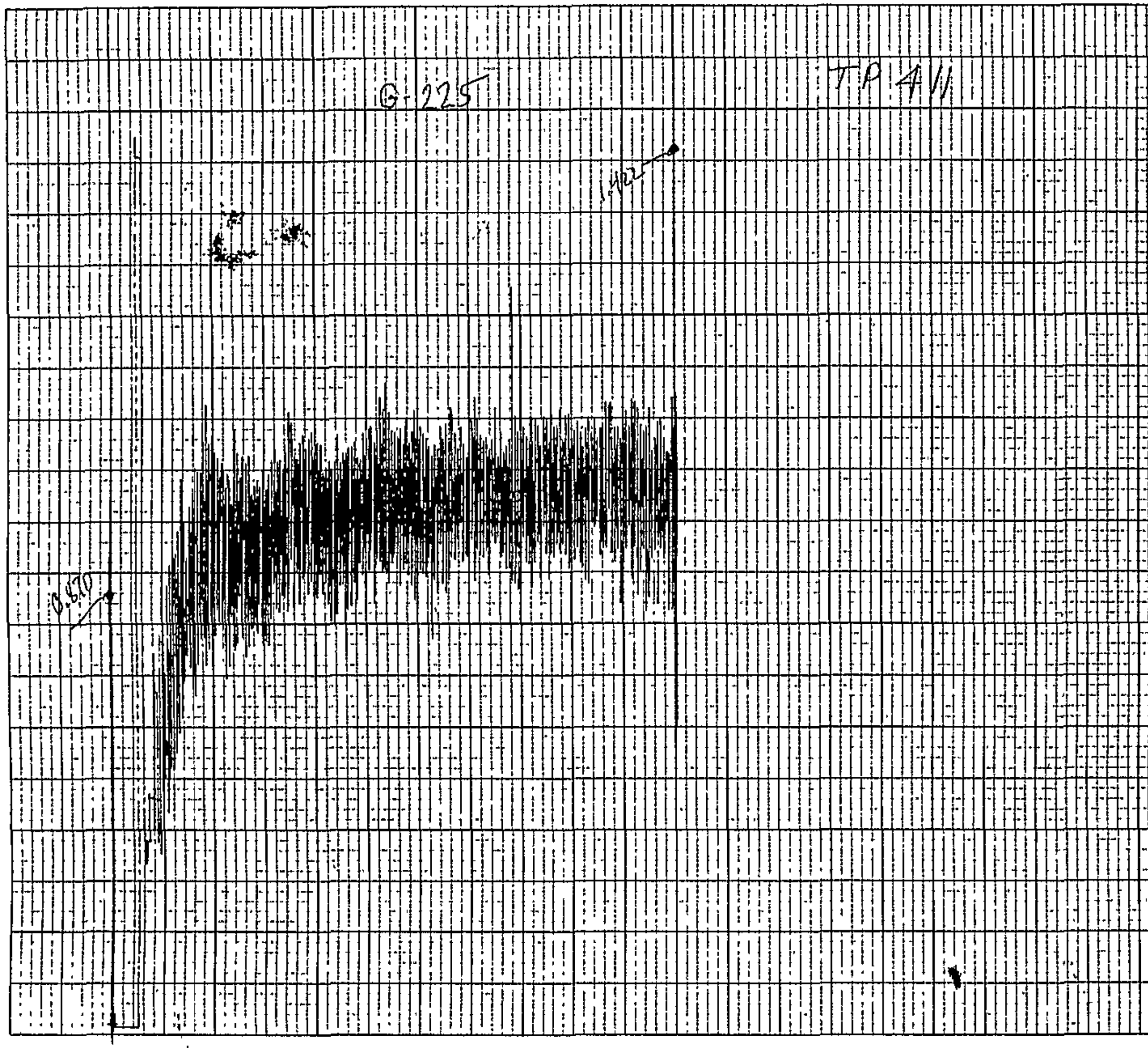
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 10/26/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 411

PLOT IDENTIFICATION : G - 225

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ = 0

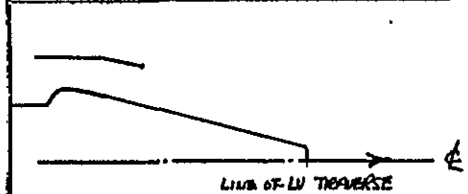
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

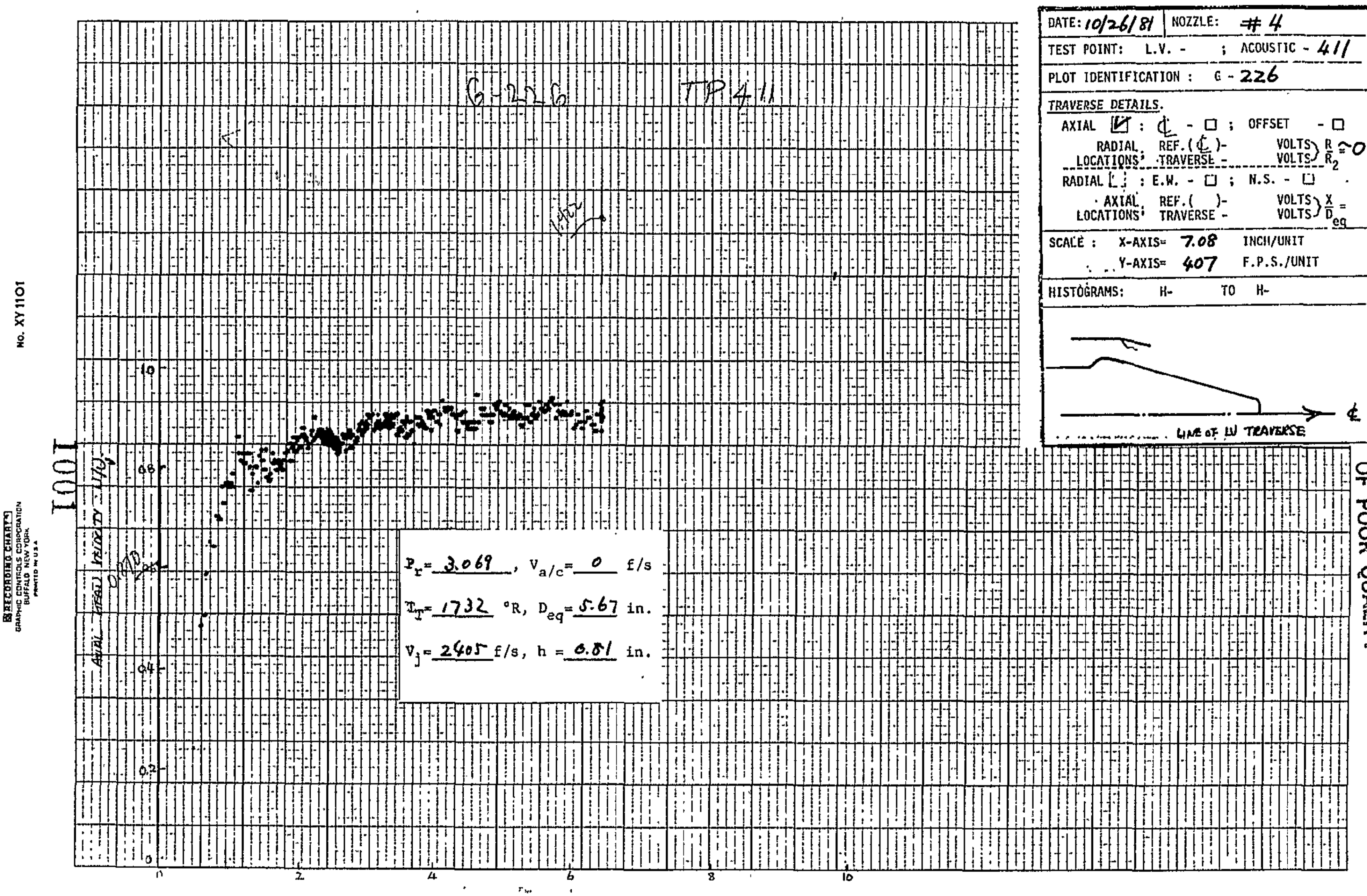
AXIAL LOCATIONS, REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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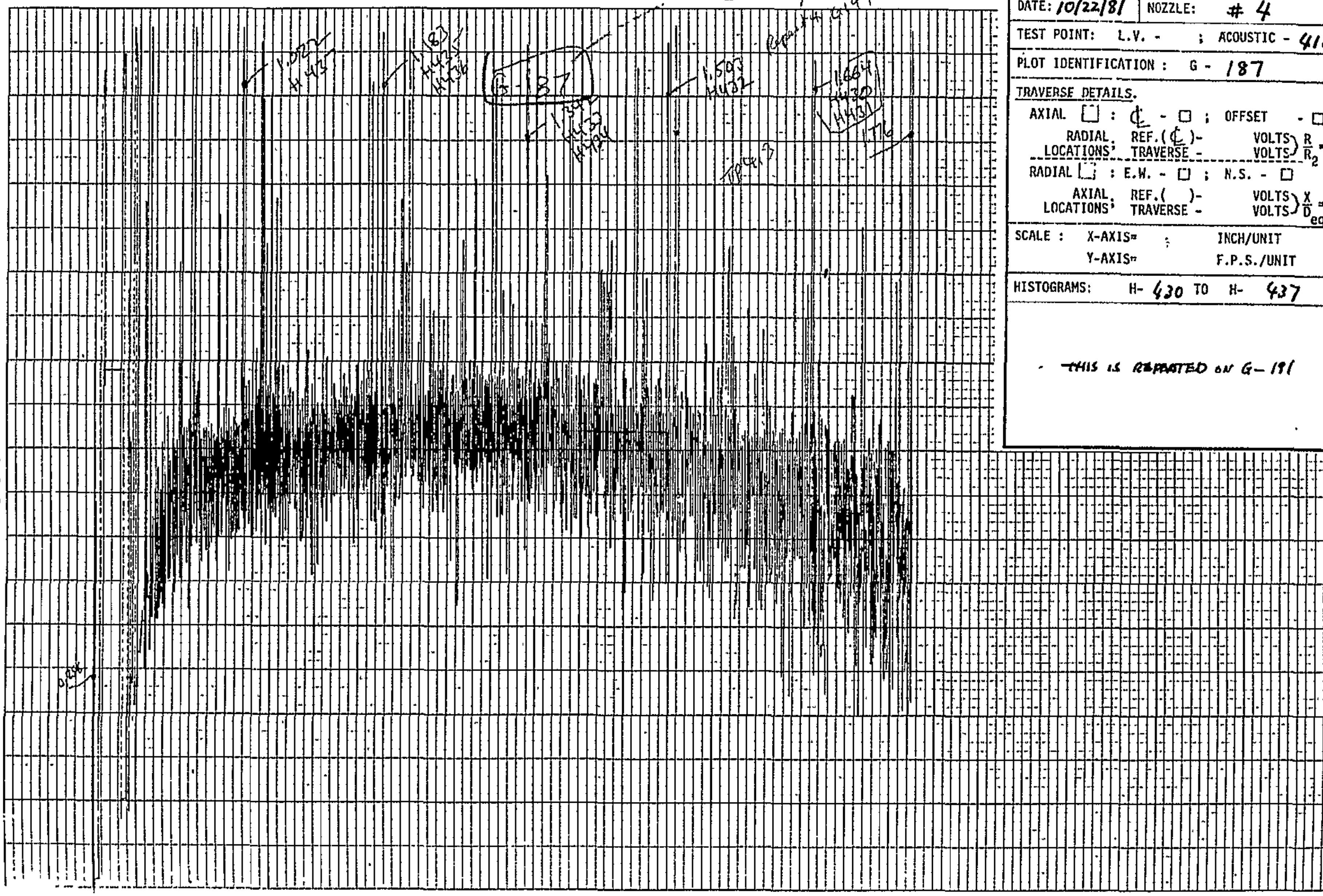
1003



DATE: 10/22/81 | NOZZLE: # 4

TEST POINT: L.V. - ; ACOUSTIC - 413

PLOT IDENTIFICATION : G - 187

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= ; INCH/UNIT

Y-AXIS= F.P.S./UNIT

HISTOGRAMS: H- 430 TO H- 437

~~THIS IS REPEATED ON G-191~~

ORIGINAL PAGE IS
OF POOR QUALITY

DATE: 10/22/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413	
PLOT IDENTIFICATION : G - 188	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS VOLTS } $\frac{R}{R_2}$ =

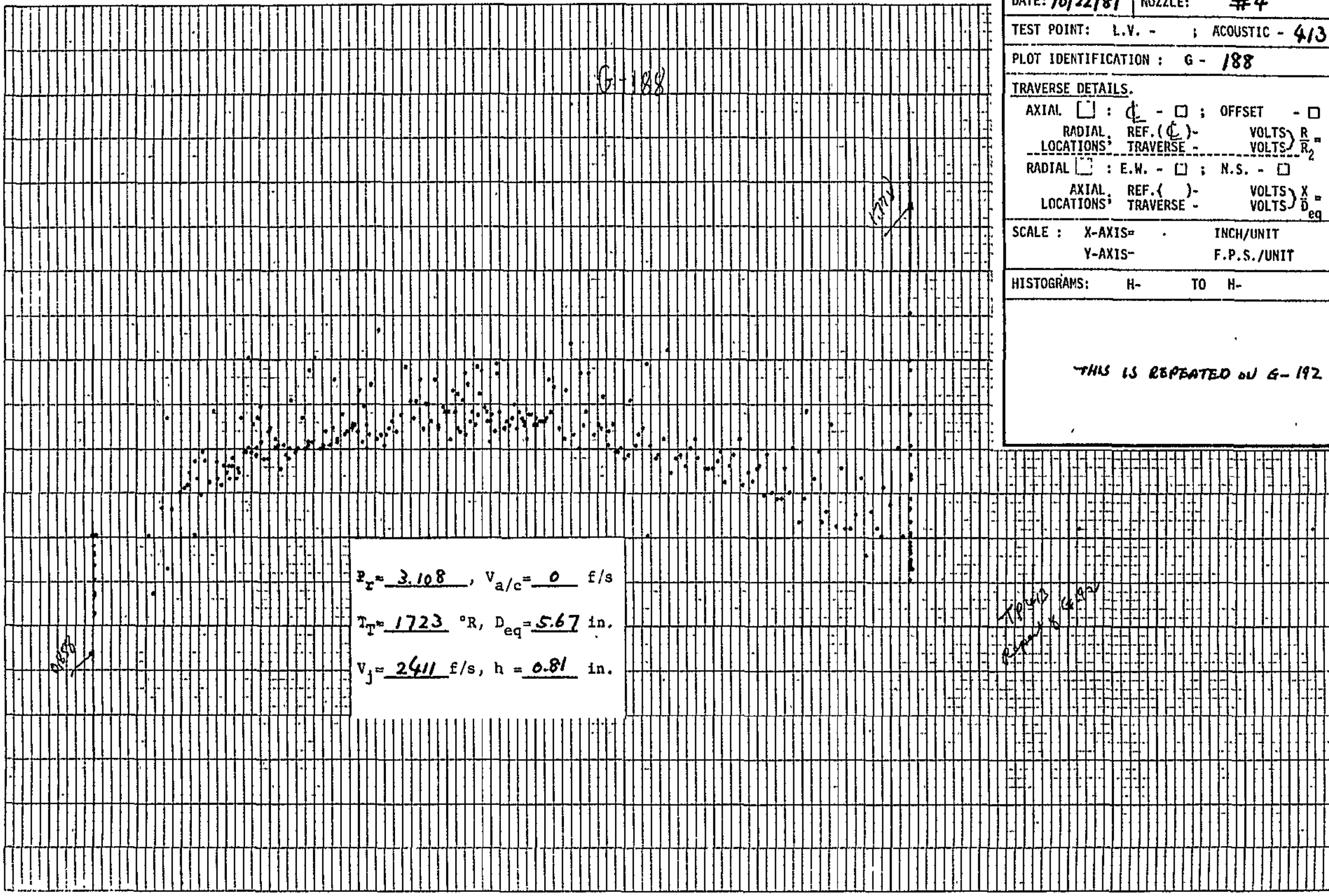
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= . INCH/UNIT
Y-AXIS- F.P.S./UNIT

HISTOGRAMS: H- TO H-

THIS IS REPEATED ON G-192

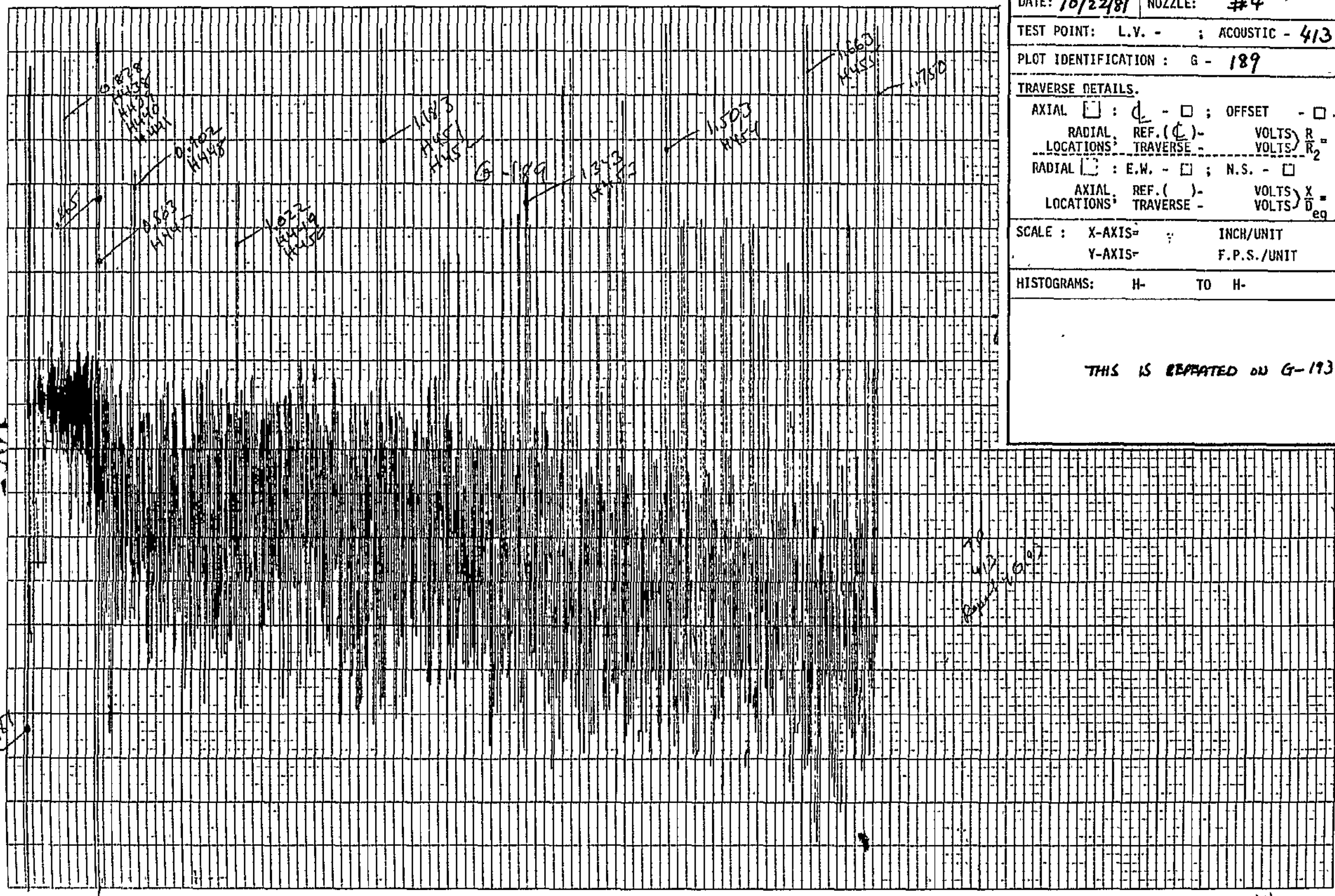


P_r = 3.108 , $V_{a/c}$ = 0 f/s

T_T = 1723 °R, D_{eq} = 5.67 in.

V_j = 2411 f/s, h = 0.81 in.

1004



DATE: 10/22/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 413

PLOT IDENTIFICATION : G - 189

TRAVERSE DETAILS.

AXIAL □ : ℄ - □ ; OFFSET - □.

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= INCH/UNIT
Y-AXIS= F.P.S./UNIT

HISTOGRAMS: H- TO H-

THIS IS REPEATED ON G-193

NO XY 1101

DATE: 10/22/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413	
PLOT IDENTIFICATION : G - 190	

TRAVERSE DETAILS.

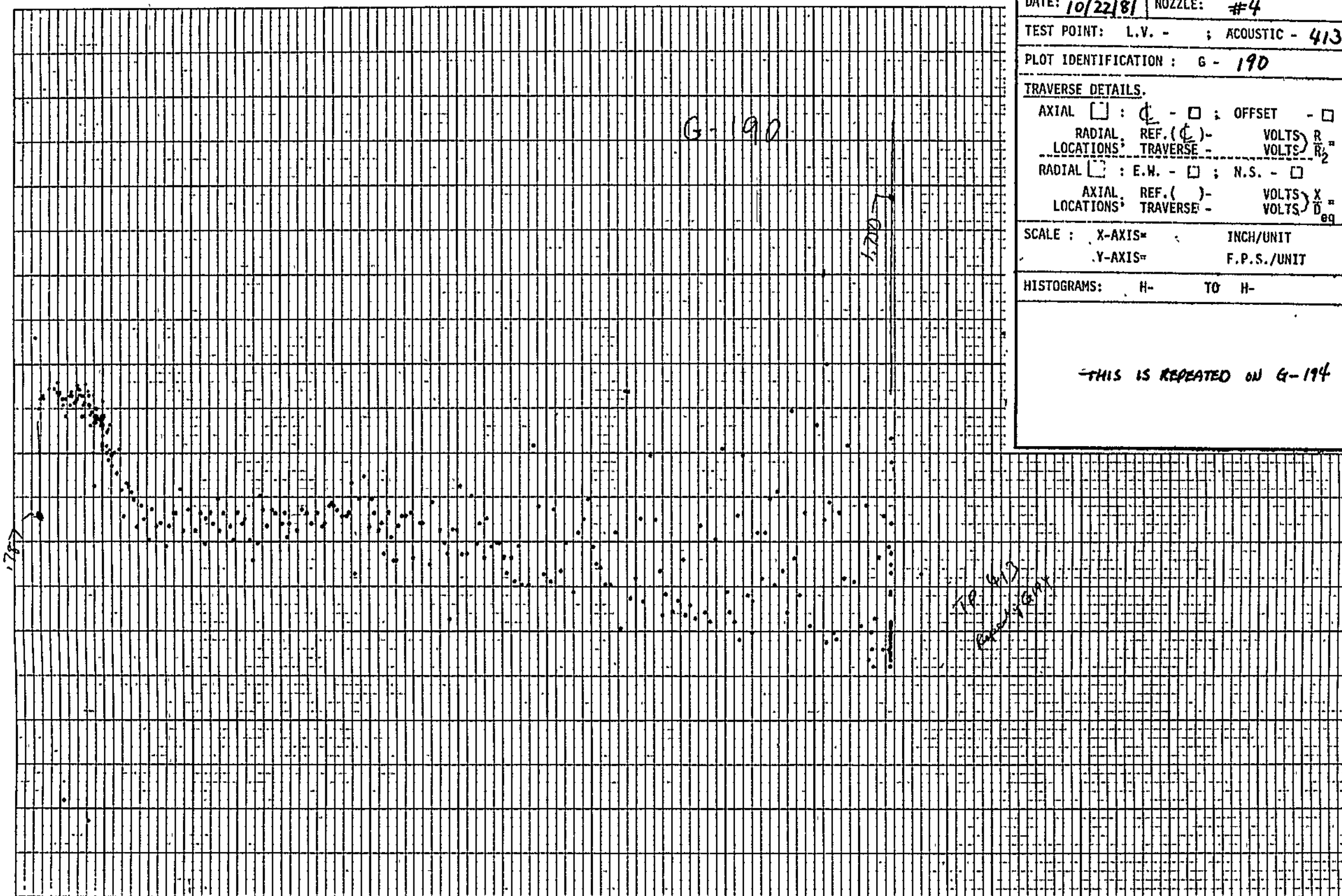
AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_{1/2}}$ =

RADIAL [ ] : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= INCH/UNIT
Y-AXIS= F.P.S./UNIT

HISTOGRAMS: H- TO H-

~~THIS~~ IS REPEATED ON G-194



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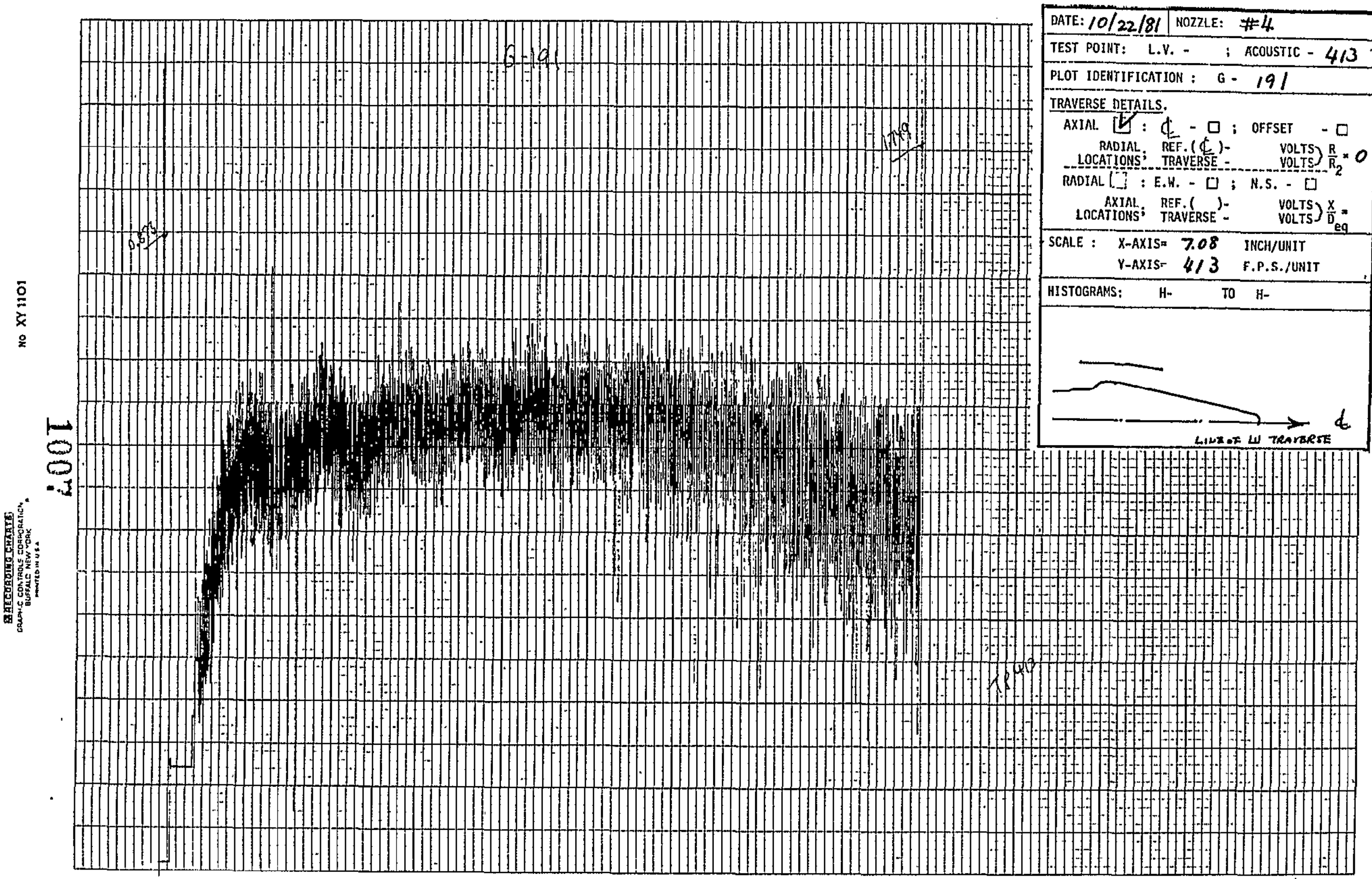
G-191
DATE: 10/22/81
NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413
PLOT IDENTIFICATION : G - 191
TRAVERSE DETAILS.
AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS) R/R2 = 0
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS) X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 413 F.P.S./UNIT
HISTOGRAMS; H- TO H-
LINE OF LV TRAVERSE
℄
1000
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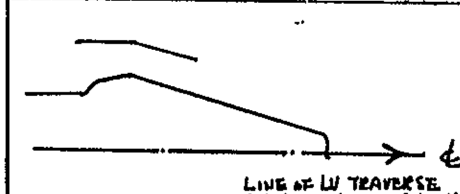
DATE: 10/22/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413	
PLOT IDENTIFICATION : G - 192	

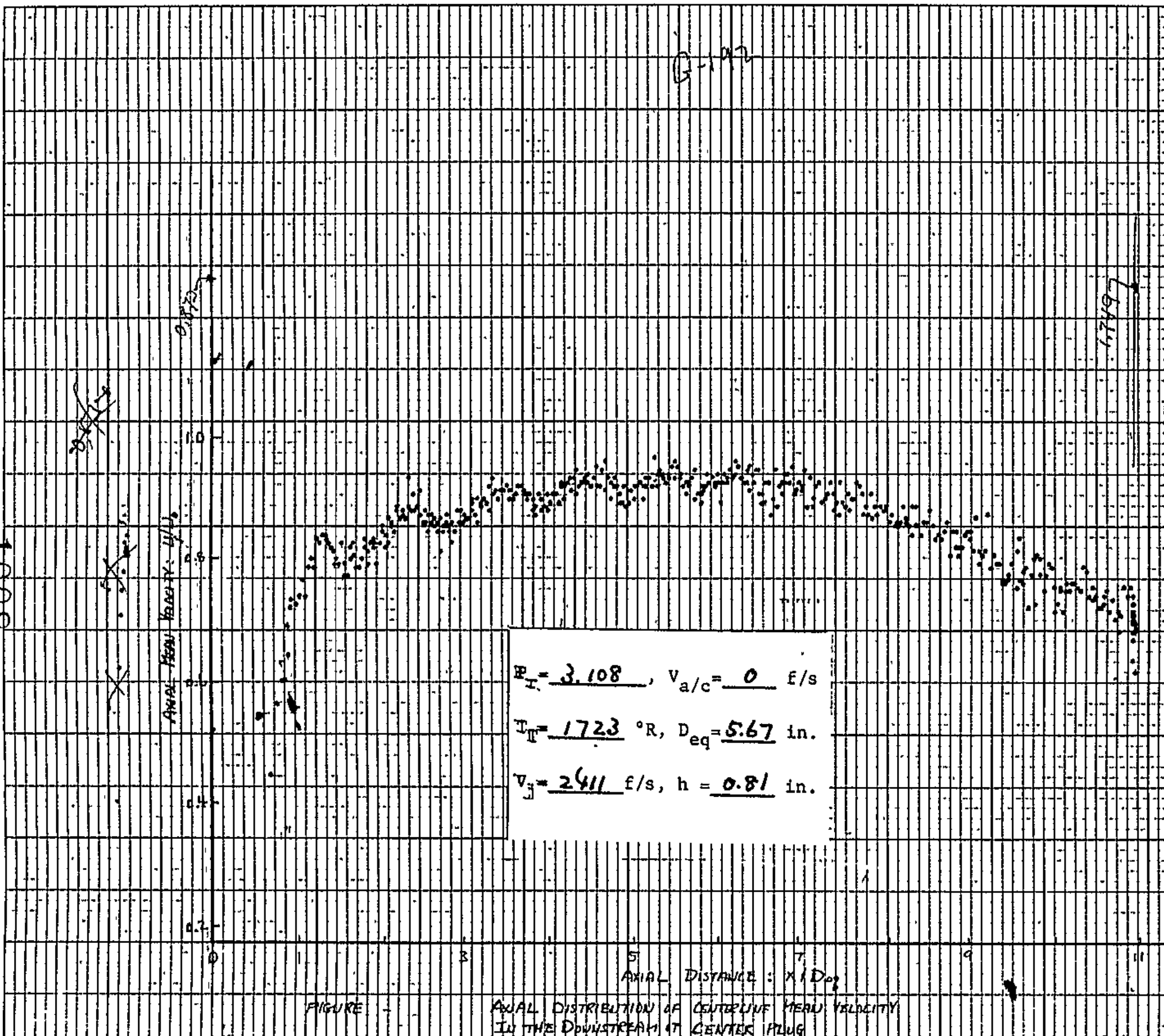
TRAVERSE DETAILS.

AXIAL ☑ : ℄ - □ ; OFFSET - □.
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS) R/R_2 = 0
RADIAL □ : E.W. - □ ; N.S. - □
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS) X/D_{eq} =

SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-





P_r = 3.108 , $V_{a/c}$ = 0 f/s

T_T = 1723 °R, D_{eq} = 5.67 in.

V_j = 2411 f/s, h = 0.81 in.

FIGURE - AXIAL DISTRIBUTION OF CENTERLINE MEAN VELOCITY IN THE DOWNSTREAM OF CENTER PLUG

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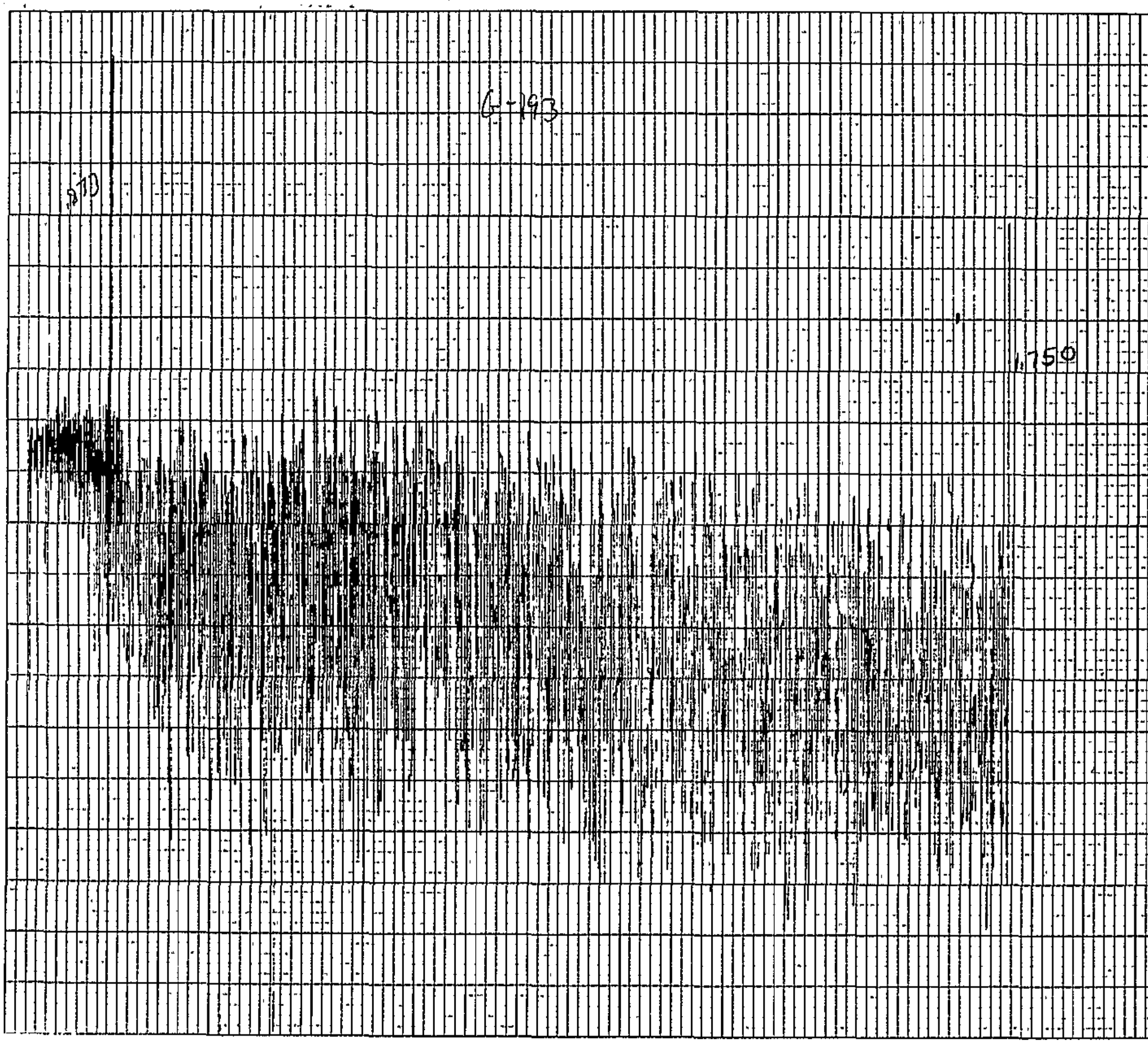
1008



DATE: 10/22/82 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 413

PLOT IDENTIFICATION : G - 193

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS) / VOLTS) $\frac{R}{R_2} \approx 1$

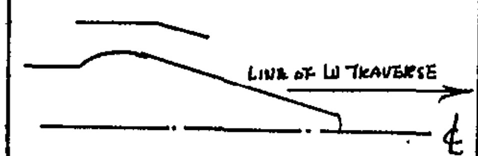
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

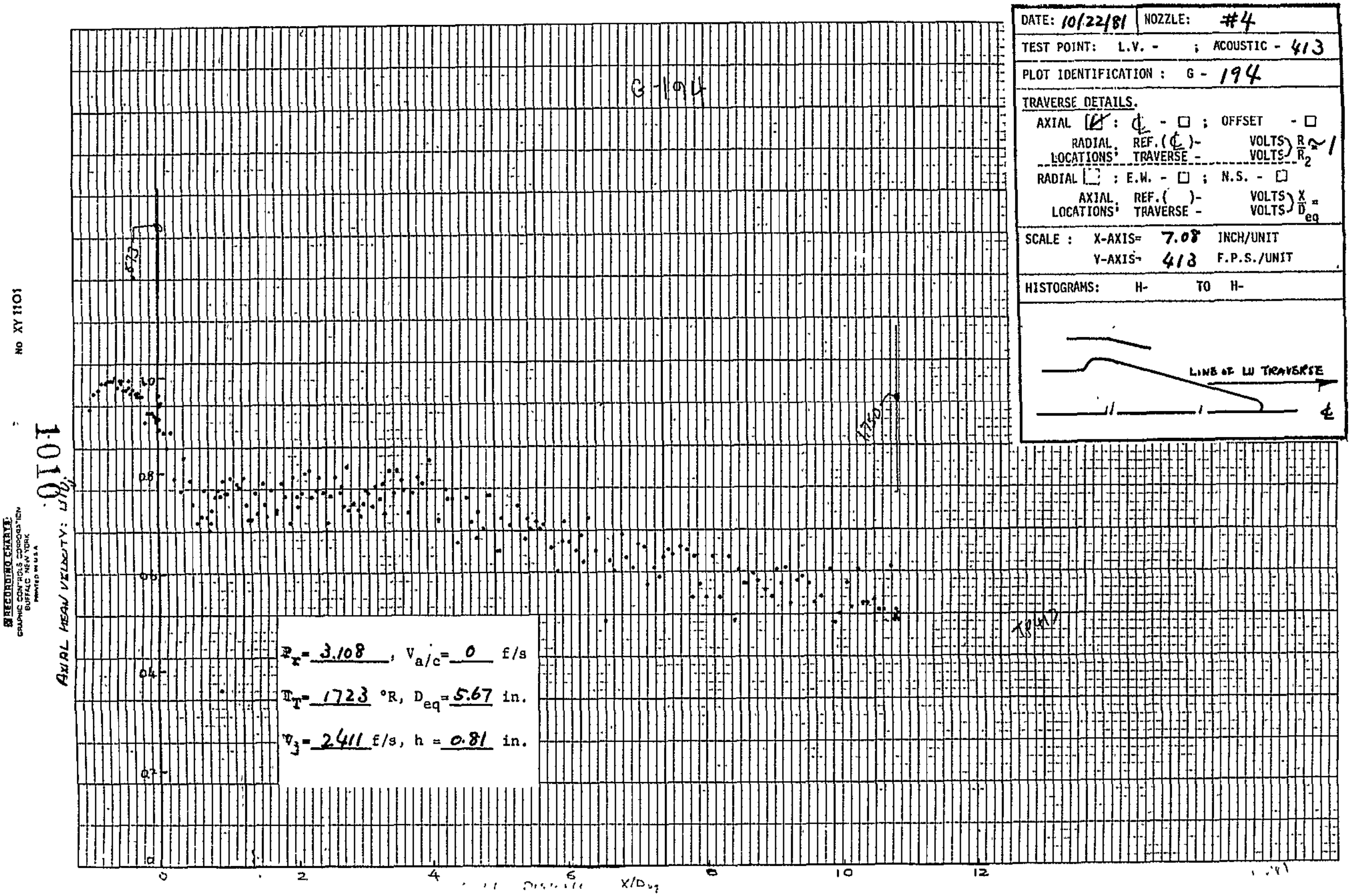
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS) / VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-




DATE: 10/22/81
NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413
PLOT IDENTIFICATION : G - 194
TRAVERSE DETAILS.
AXIAL : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 ≃ 1
RADIAL : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 413 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
G-194
P_r = 3.108 , $V_{a/c}$ = 0 f/s
T_T = 1723 °R, D_{eq} = 5.67 in.
V_j = 2411 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY
X/Deq
0
2
4
6
8
10
12
1.0
0.8
0.6
0.4
0.2
0

T.P. 413 RADIAL DISTR. OF MEAN VELOCITY (6)

DATE: 10/22/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413	
PLOT IDENTIFICATION : G - 195	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐ .
RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS VOLTS } $\frac{R}{R_2}$ =

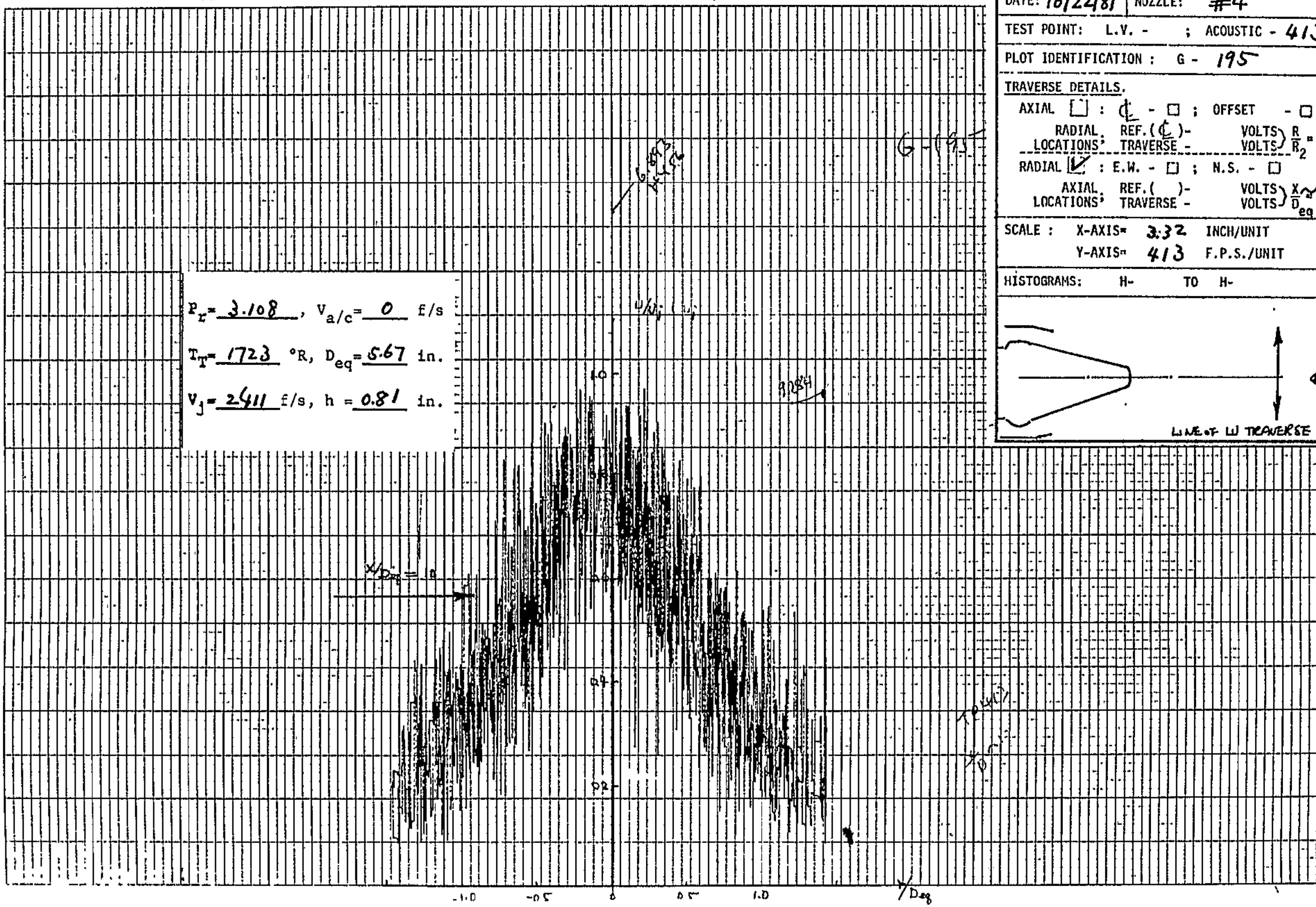
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS VOLTS } $\frac{X}{D_{eq}} \simeq 10$

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF U TRAVERSE

P_r = 3.108 , $V_{a/c}$ = 0 f/s
T_T = 1723 °R, D_{eq} = 5.67 in.
V_j = 2411 f/s, h = 0.81 in.



No. XY 1101

1011

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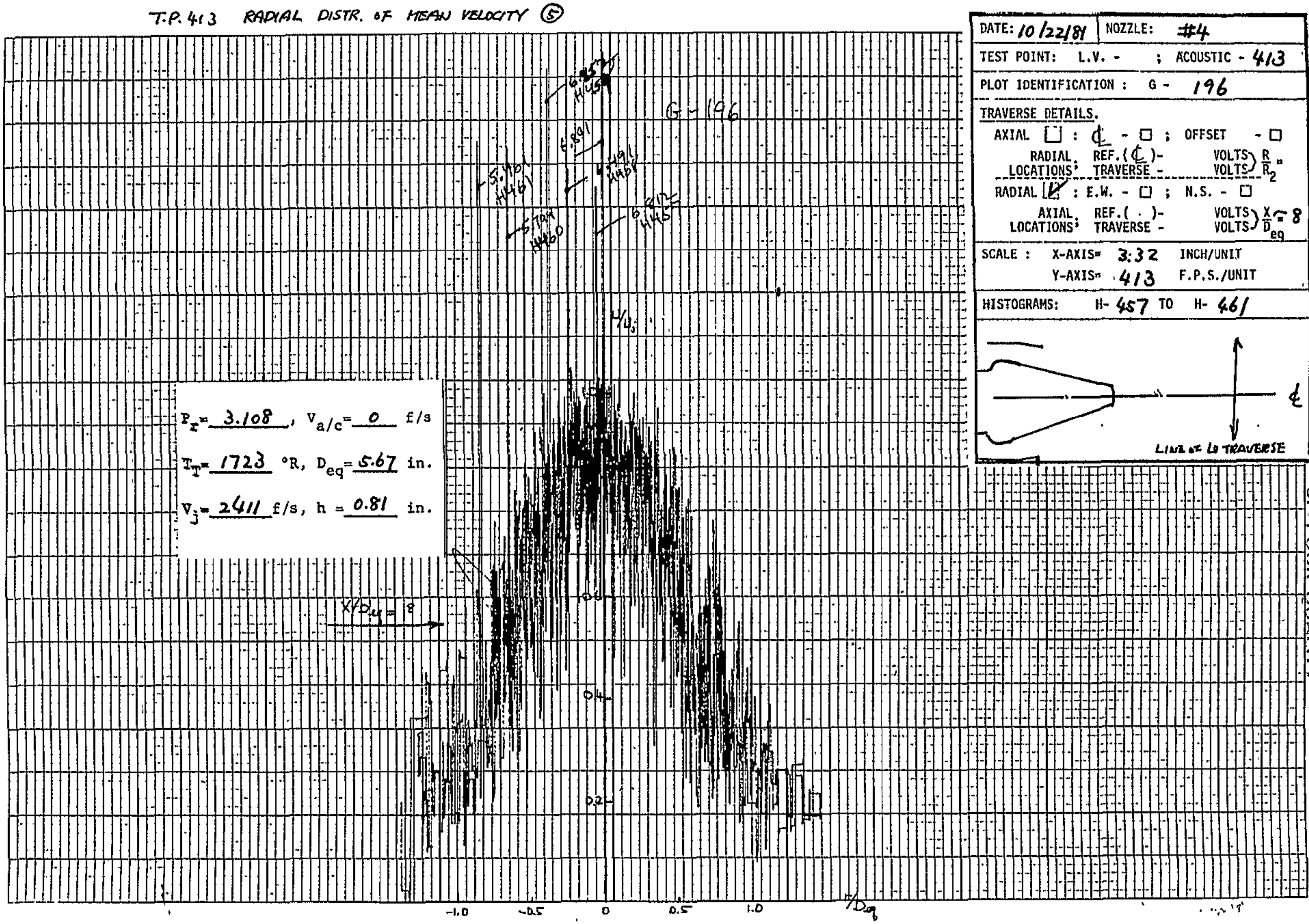
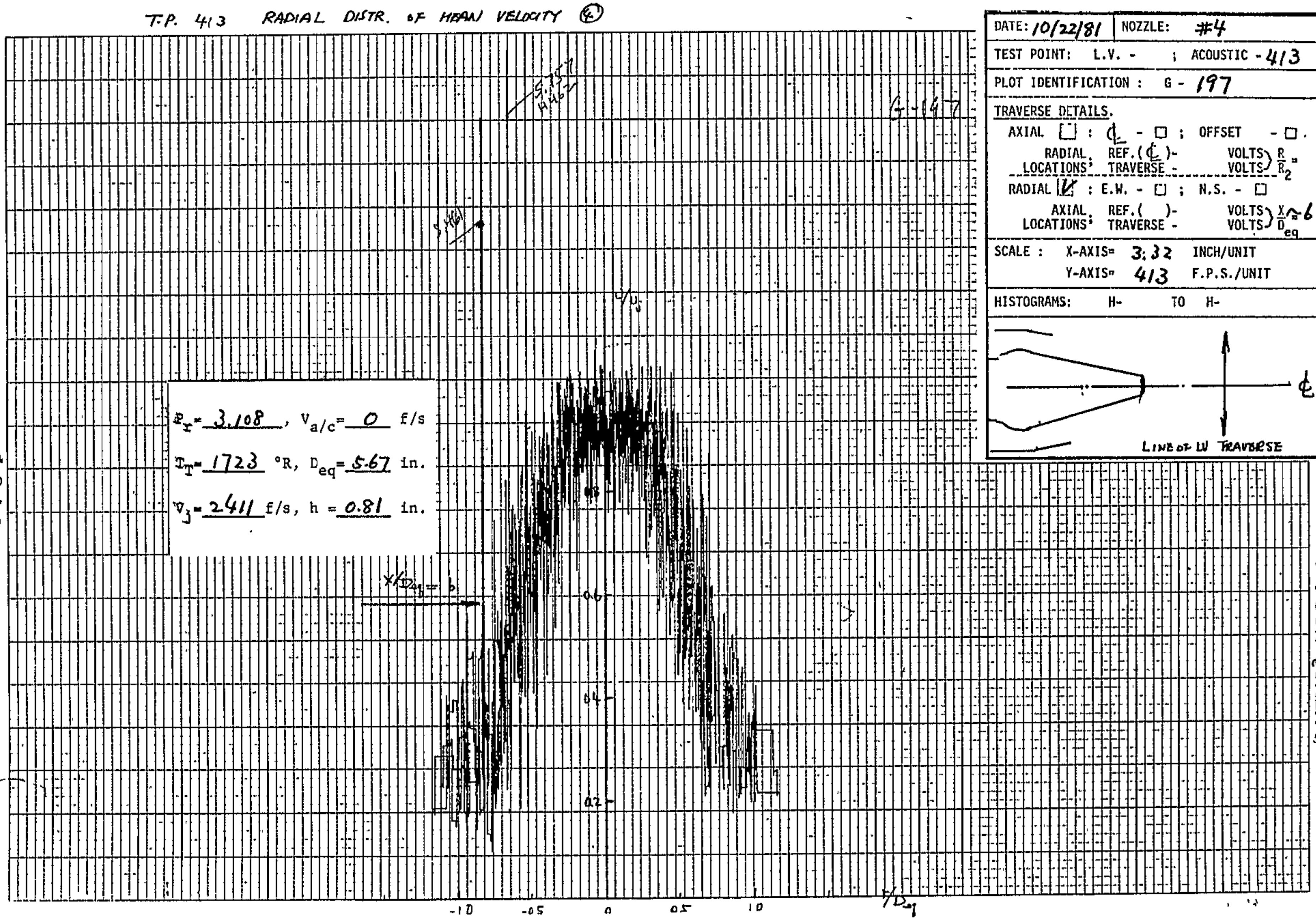
T.P. 413 RADIAL DISTR. OF MEAN VELOCITY (5)



T.P. 413 RADIAL DISTR. OF MEAN VELOCITY



NO XY 1101

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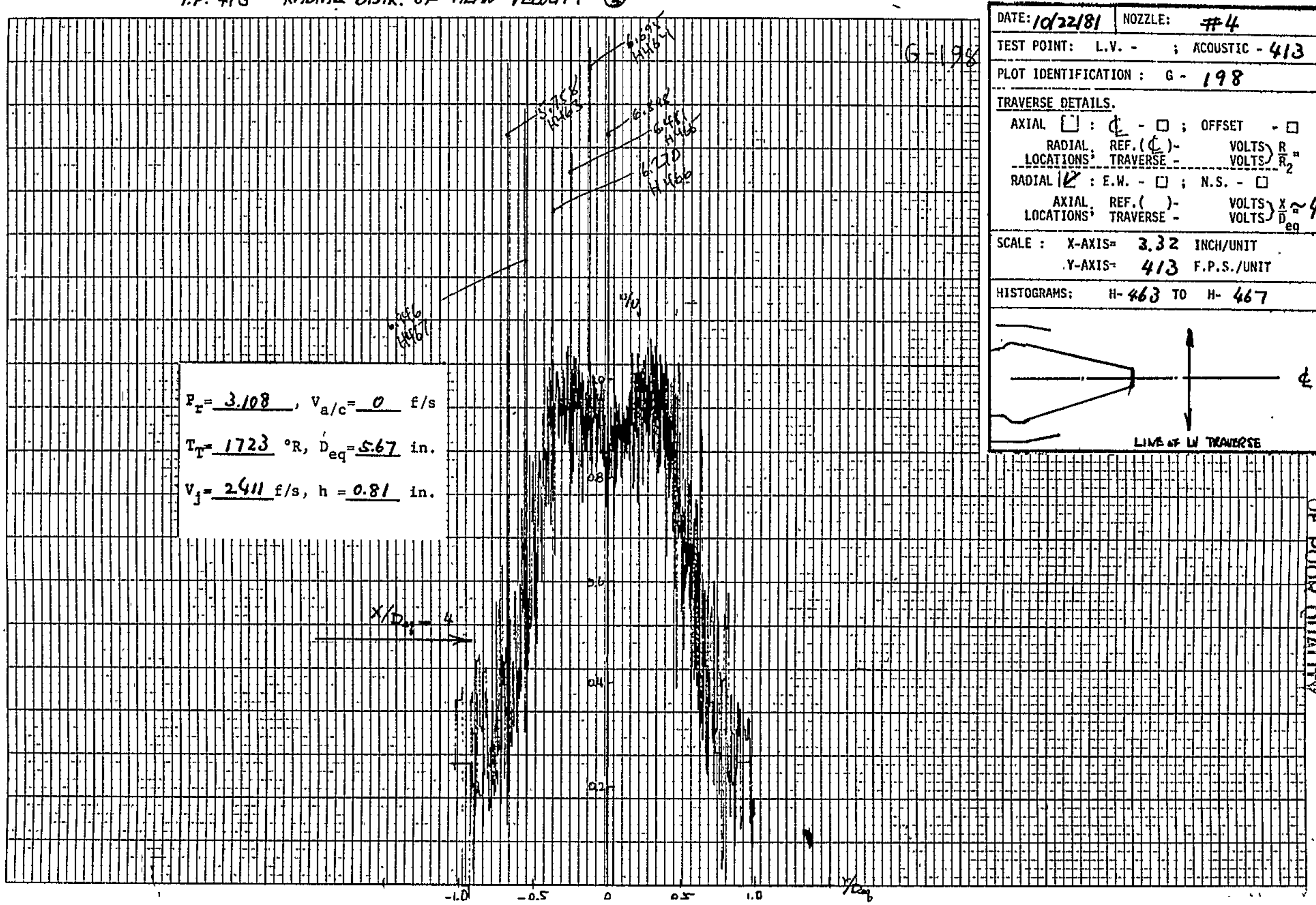
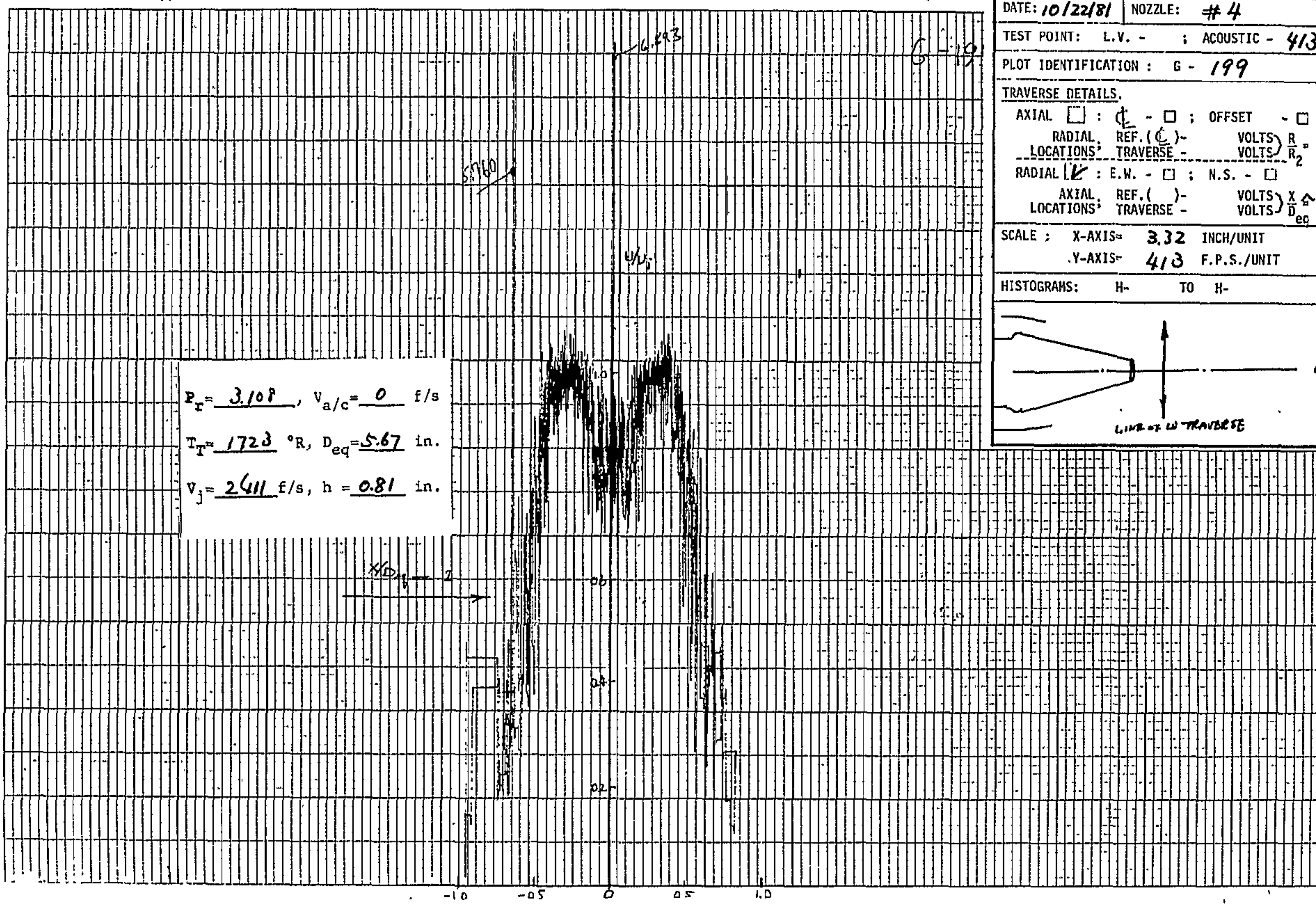
1013

T.P. 413 RADIAL DISTR. OF MEAN VELOCITY ③



404

T.P. 413 RADIAL DISTR. OF MEAN VELOCITY ②



P_r = 3.108, $V_{a/c}$ = 0 f/s

T_T = 1723 °R, D_{eq} = 5.67 in.

V_j = 2411 f/s, h = 0.81 in.

DATE: 10/22/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 413

PLOT IDENTIFICATION : G - 199

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ ≏ 2

SCALE ; X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

℄

LINE OF LV TRAVERSE

T.P. 413 RADIAL DISTR. of MEAN VELOCITY ①

DATE: 10/22/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413	
PLOT IDENTIFICATION : G - 200	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

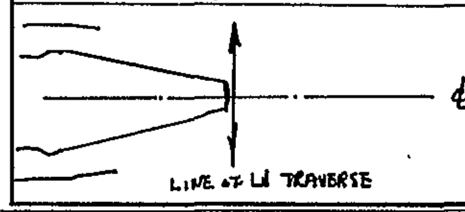
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

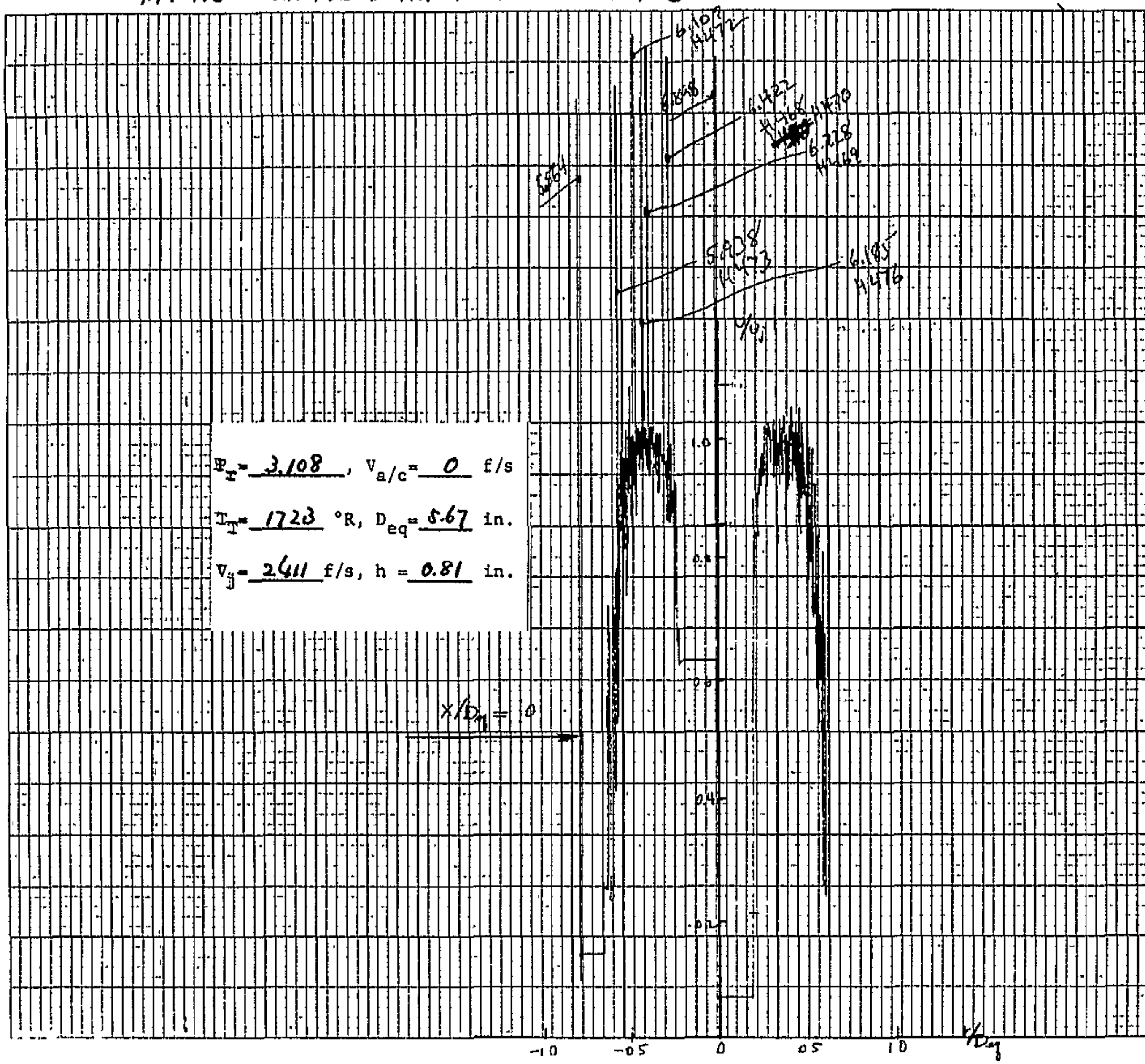
HISTOGRAMS: H- 468 TO H- 476

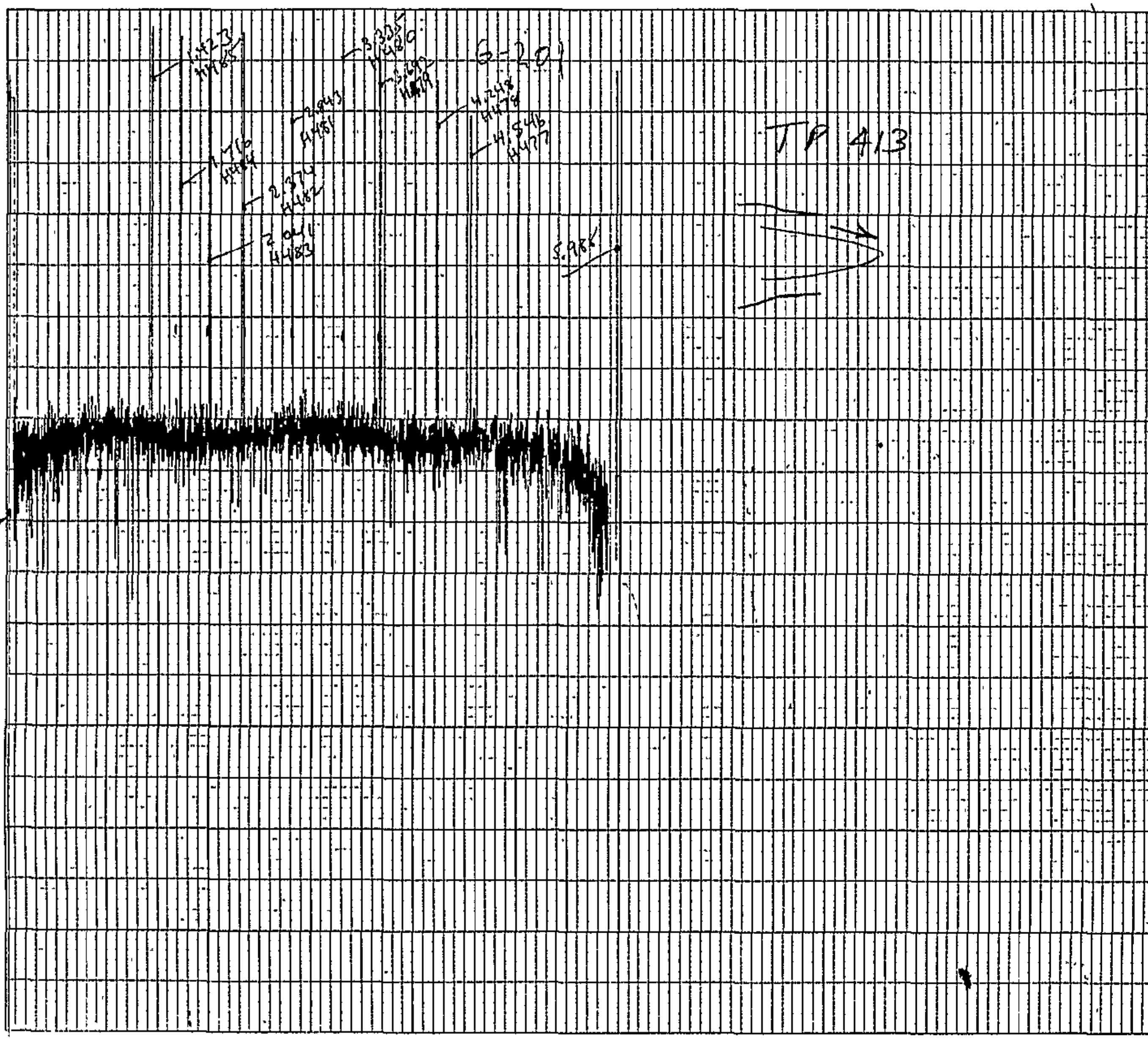


P_T = 3.108 , $V_{a/c}$ = 0 f/s

T_T = 1723 °R, D_{eq} = 5.67 in.

V_j = 2411 f/s, h = 0.81 in.





DATE: 10/22/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 413

PLOT IDENTIFICATION : G - 201

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

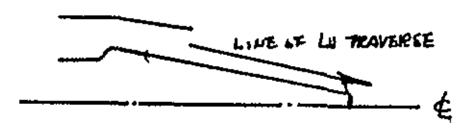
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

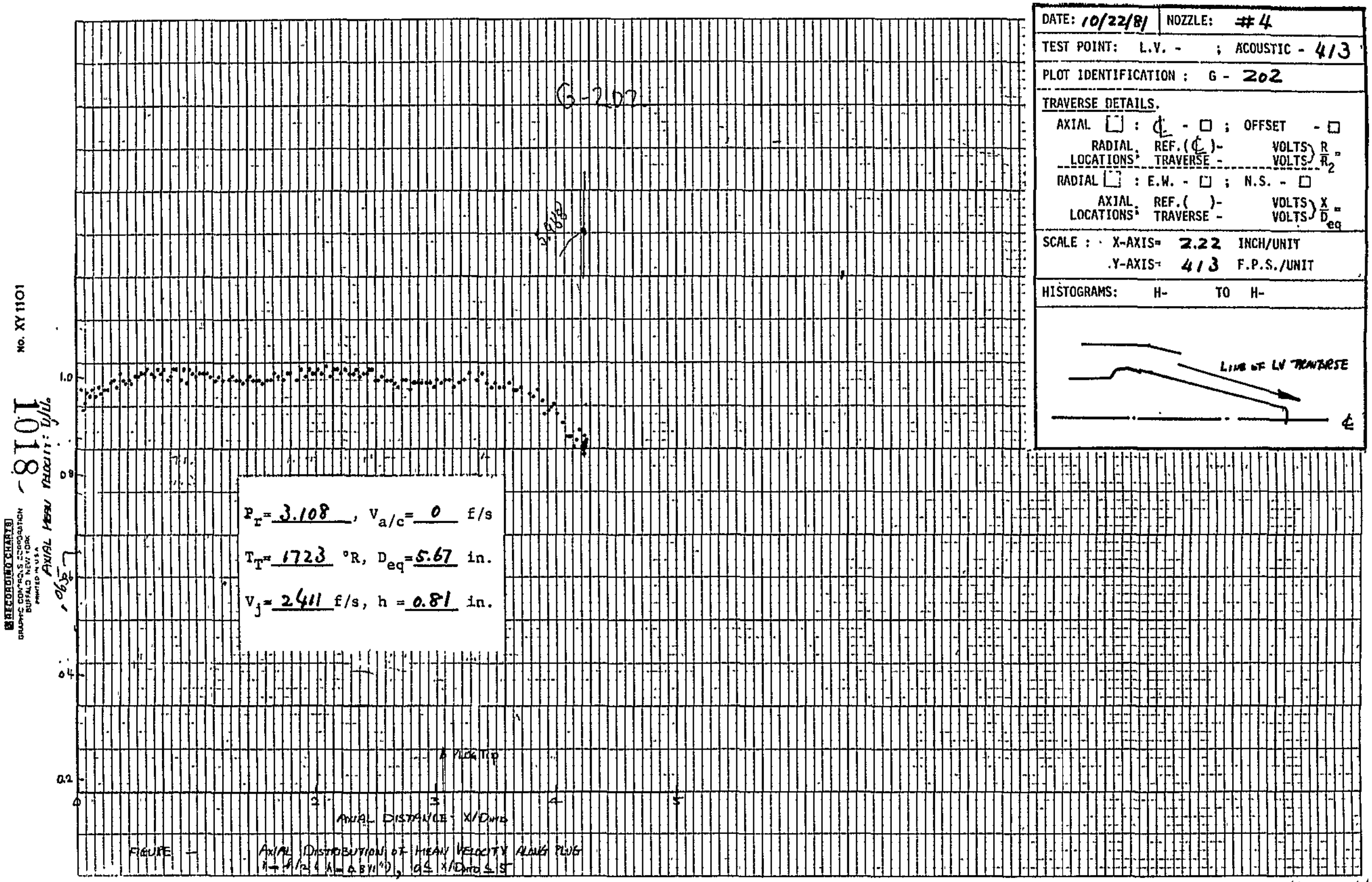
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- 477 TO H- 486





DATE: 10/22/81
NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413
PLOT IDENTIFICATION : G - 202
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 413 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
G-202
Pr= 3.108, Va/c= 0 f/s
TT= 1723 °R, Deq= 5.67 in.
Vj= 2411 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY: U/Uj
1.0
0.8
0.6
0.4
0.2
0
1
2
3
4
5
PLUG TIP
AXIAL DISTANCE: X/Dmin
FIGURE -
AXIAL DISTRIBUTION OF MEAN VELOCITY ALONG PLUG
NO. XY 1101
1018
RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK PRINTED IN U.S.A.

DATE: 10/22/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 413	
PLOT IDENTIFICATION : G - 203	

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

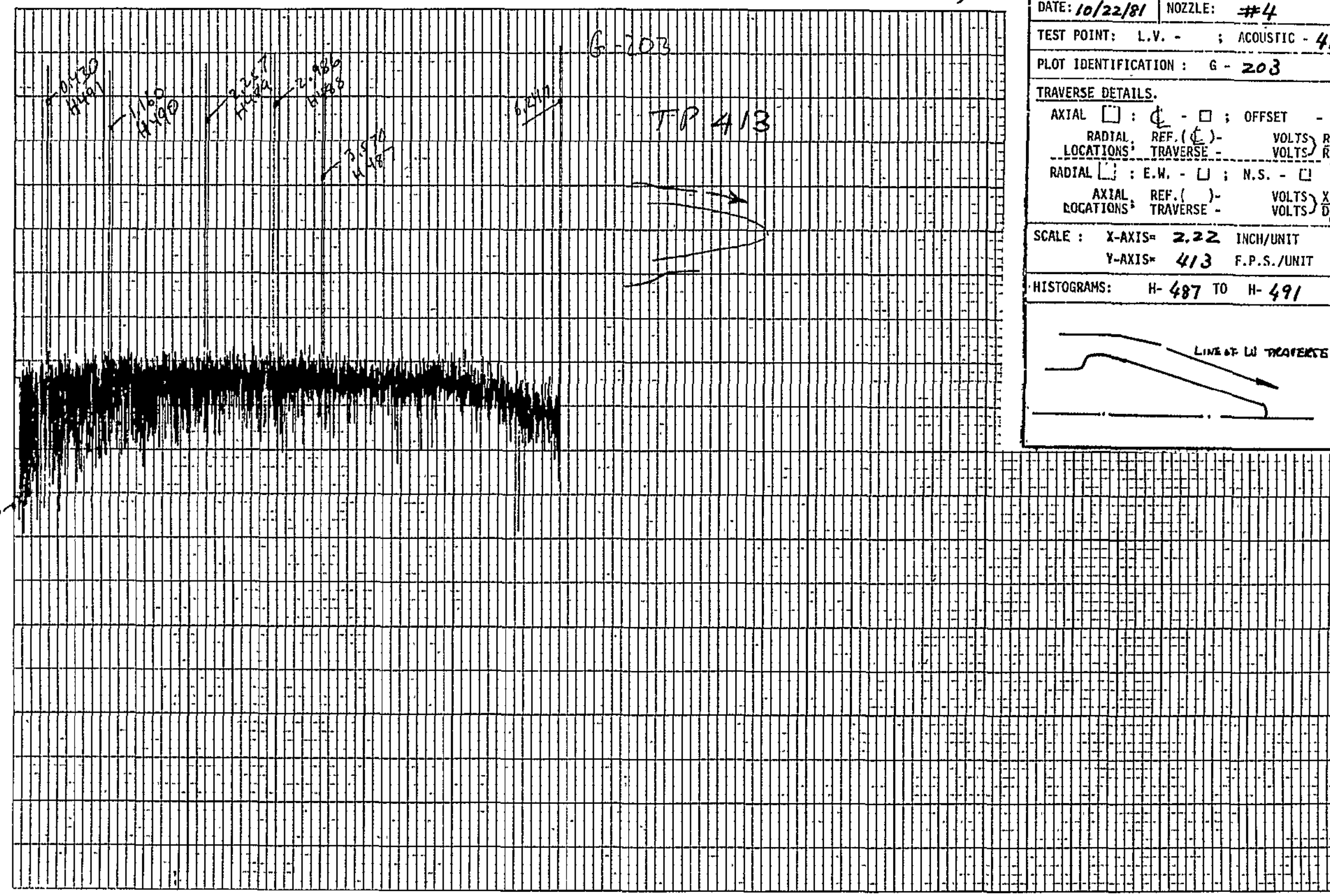
SCALE : X-AXIS= 2.22 INCH/UNIT

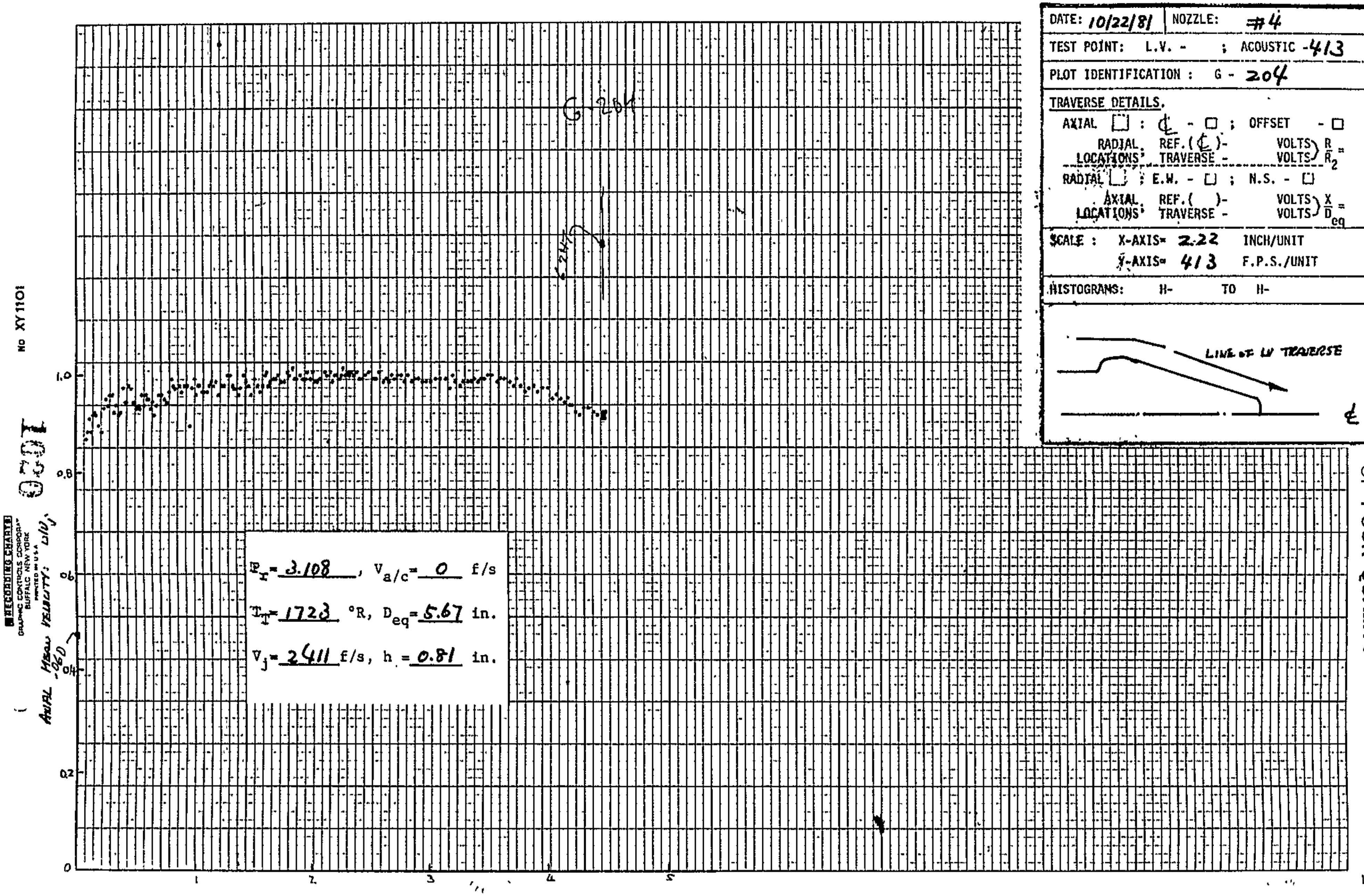
Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- 487 TO H- 491

LINE OF LV TRAVERSE

℄





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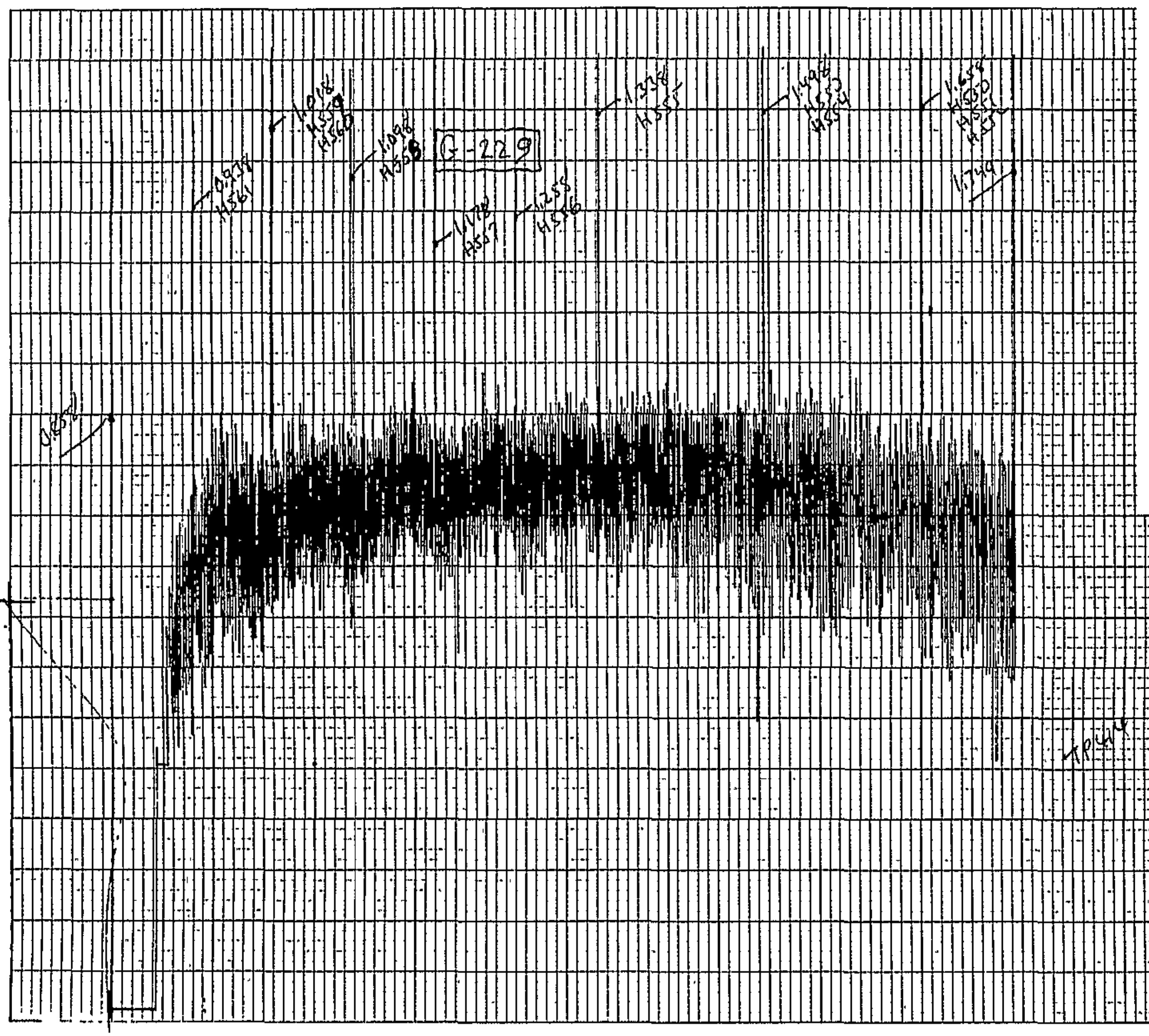
OF POOR QUALITY

Model 4
Test Point 414



DATE: 10/27/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 44

PLOT IDENTIFICATION : G - 229

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2} \approx 0$

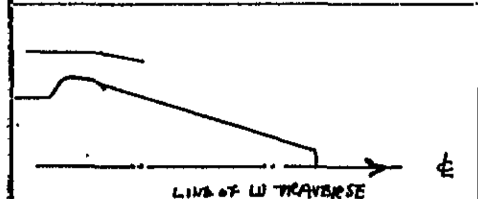
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 10/27/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 414	
PLOT IDENTIFICATION : G - 230	

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2} = 0$

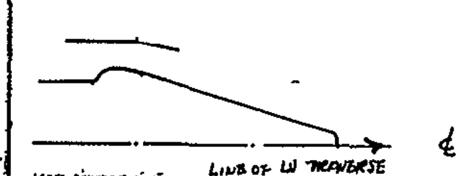
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

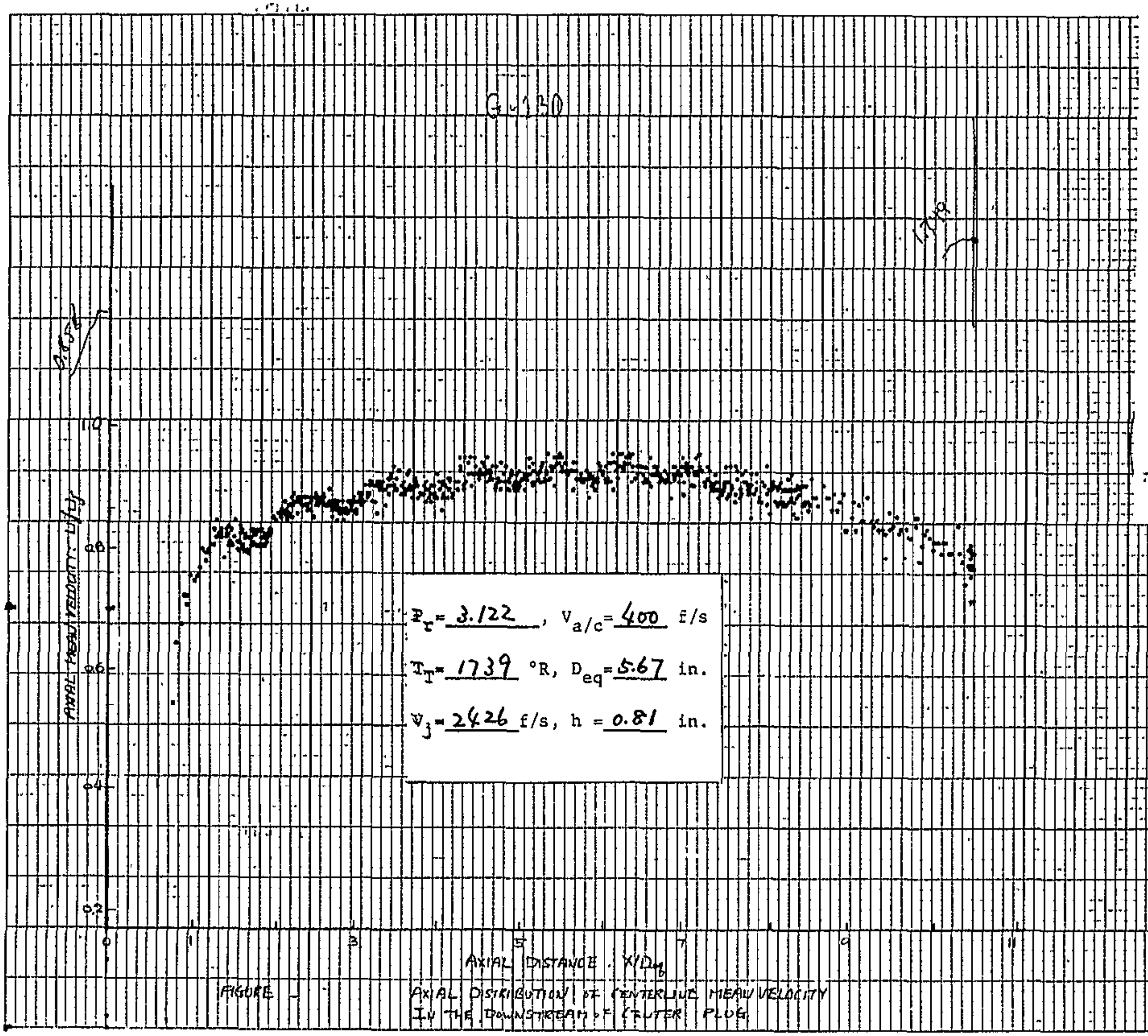
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-





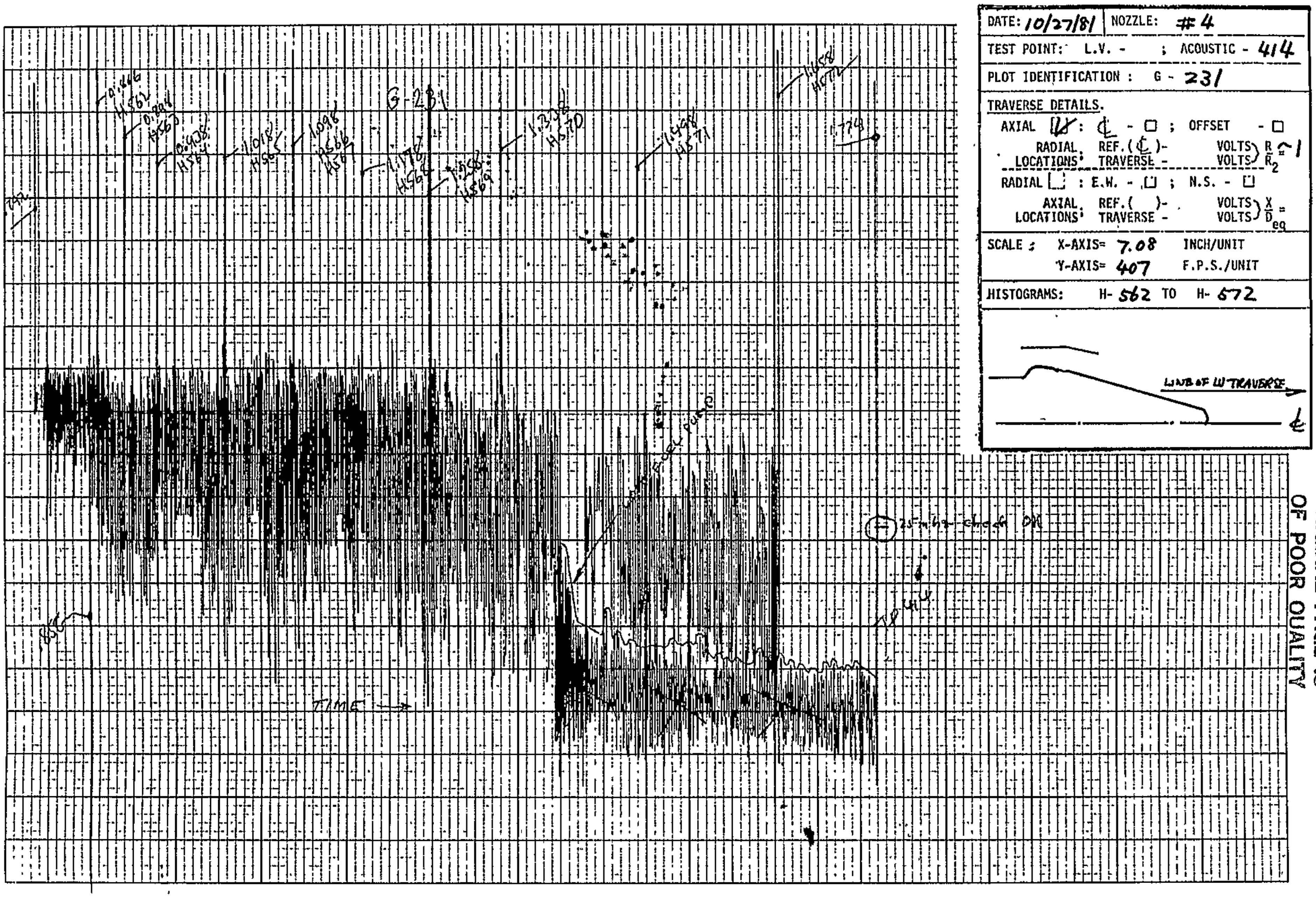
P_r = 3.122 , $V_{a/c}$ = 400 f/s

T_T = 1739 °R, D_{eq} = 5.67 in.

V_j = 2426 f/s, h = 0.81 in.

FIGURE — AXIAL DISTRIBUTION OF CENTERLINE MEAN VELOCITY IN THE DOWNSTREAM OF CENTER PLUG

1023



NO XY 1101

1024

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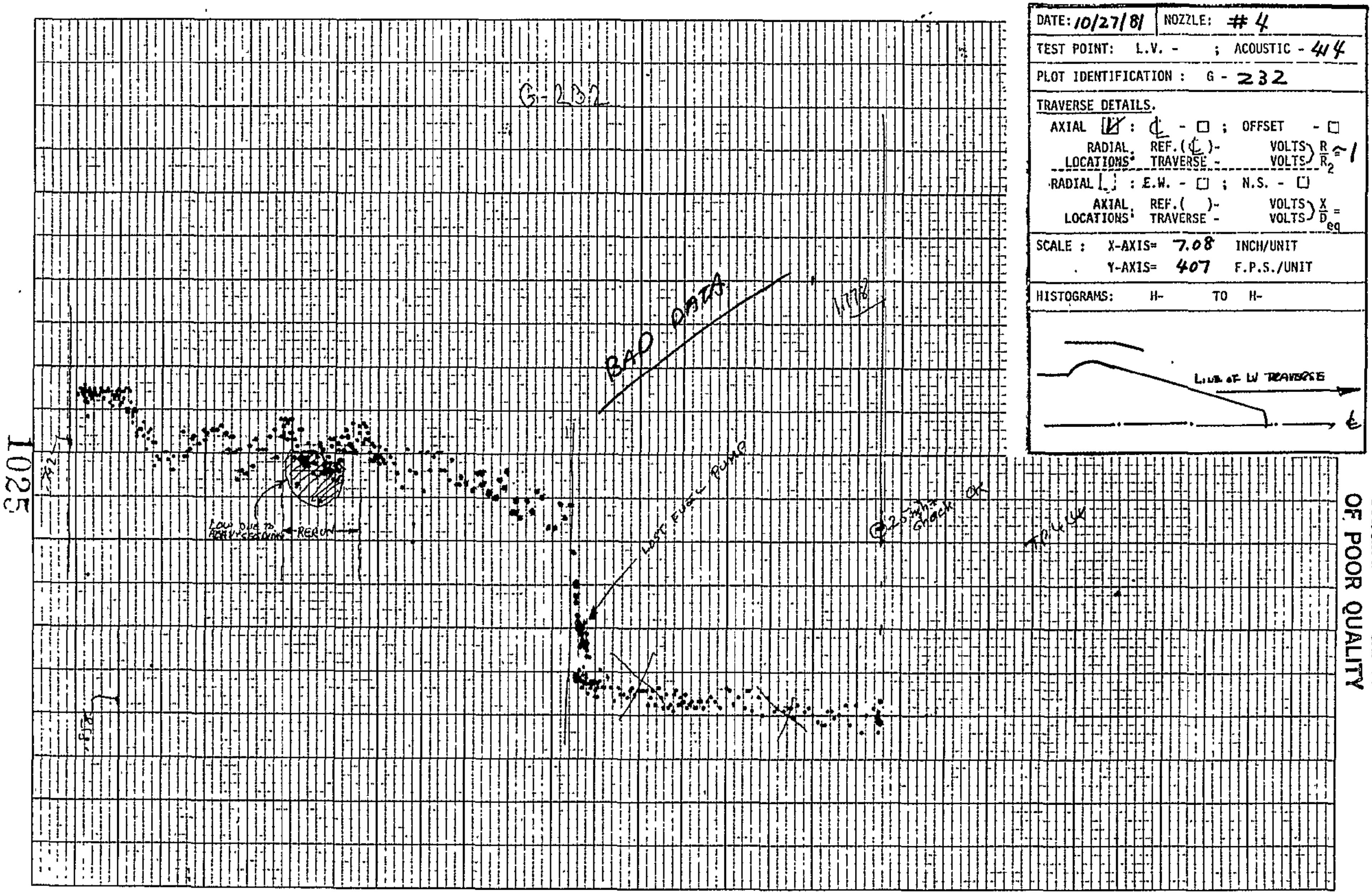


ORIGINAL PAGE IS OF POOR QUALITY

No XY 1101

RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
PRINTED IN U.S.A.

DATE: 10/27/81 NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 44

PLOT IDENTIFICATION : G - 233

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS / VOLTS) $\frac{R}{R_2}$ =

RADIAL [✓] : E.W. - ☐ ; N.S.. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS) $\frac{X}{D_{eq}} \approx 10$

SCALE : X-AXIS= 3.32 INCH/UNIT

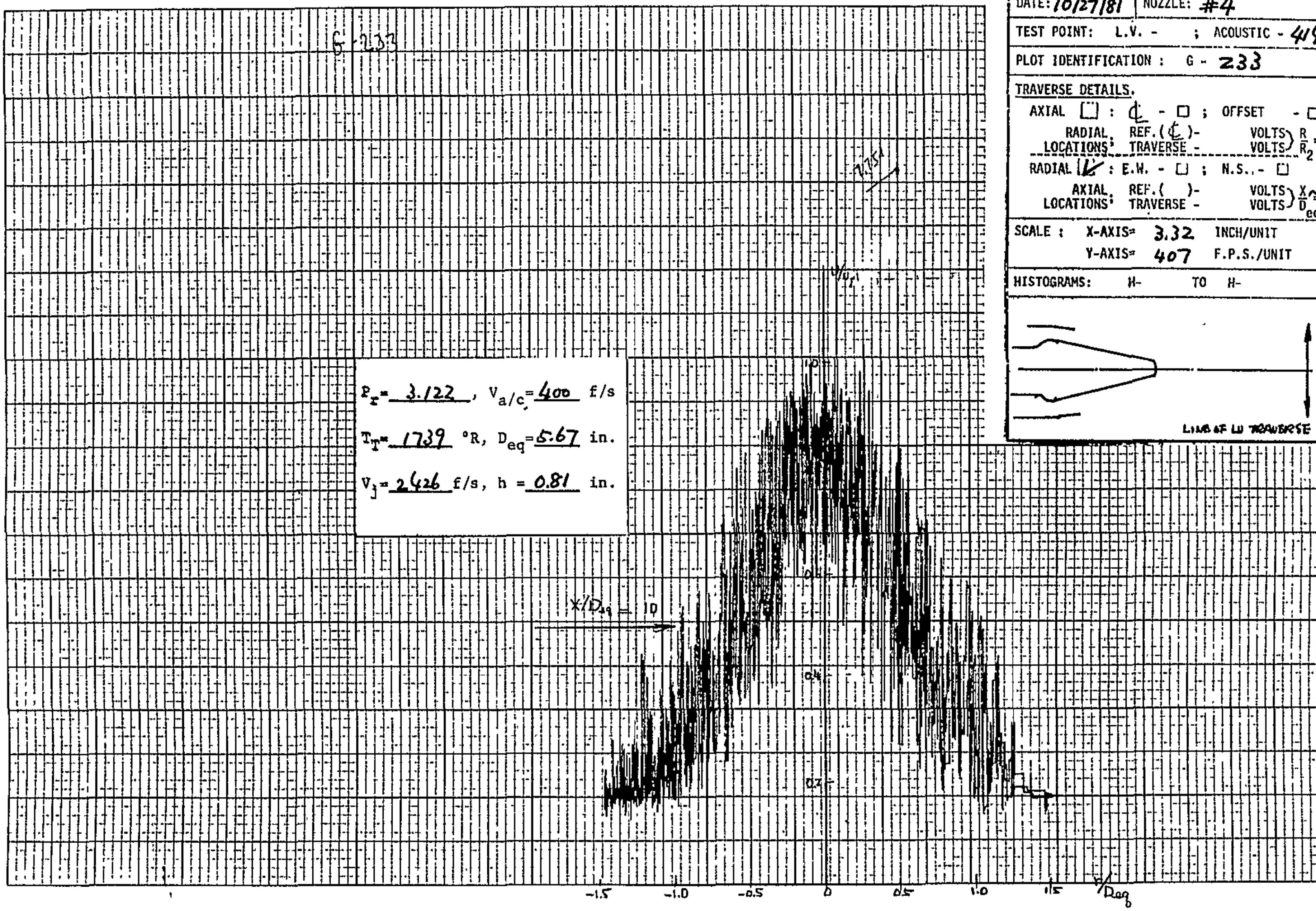
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

P_r = 3.122 , $V_{a/c}$ = 400 f/s

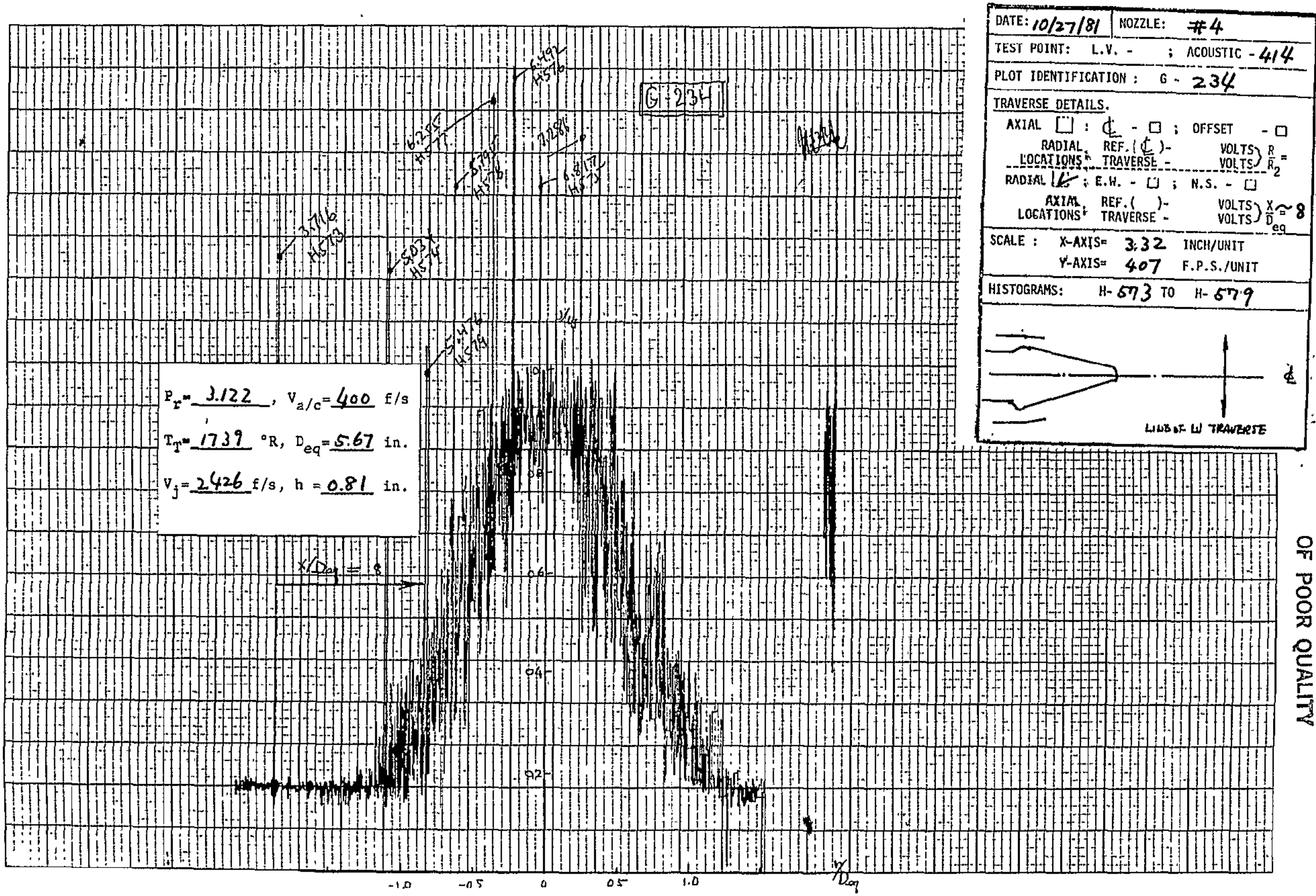
T_T = 1739 °R, D_{eq} = 5.67 in.

V_j = 2426 f/s, h = 0.81 in.



No. XY 1101

1026


DATE: 10/27/81
NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 414
PLOT IDENTIFICATION : G - 234
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL ☑ ; E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS X/Deq ≈ 8
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT
HISTOGRAMS: H- 573 TO H- 579
LINE OF ℄ TRAVERSE
℄
G-234
P_r = 3.122 , $V_{a/c}$ = 400 f/s
T_T = 1739 °R, D_{eq} = 5.67 in.
V_j = 2426 f/s, h = 0.81 in.
x/Deq = 8
3716 H573
5031 H574
5.476 H575
5.791 H576
6.295 H577
6.492 H576
7.288
6.817 H575
V/Vj
1.0
0.8
0.6
0.4
0.2
-1.0
-0.5
0
0.5
1.0
y/Deq

1027

DATE: 10/27/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 414

PLOT IDENTIFICATION : G - 235

TRAVERSE DETAILS.

AXIAL [ ] : ₵ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(₵)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

RADIAL [✓] : E.W. - □ ; N.S. - □

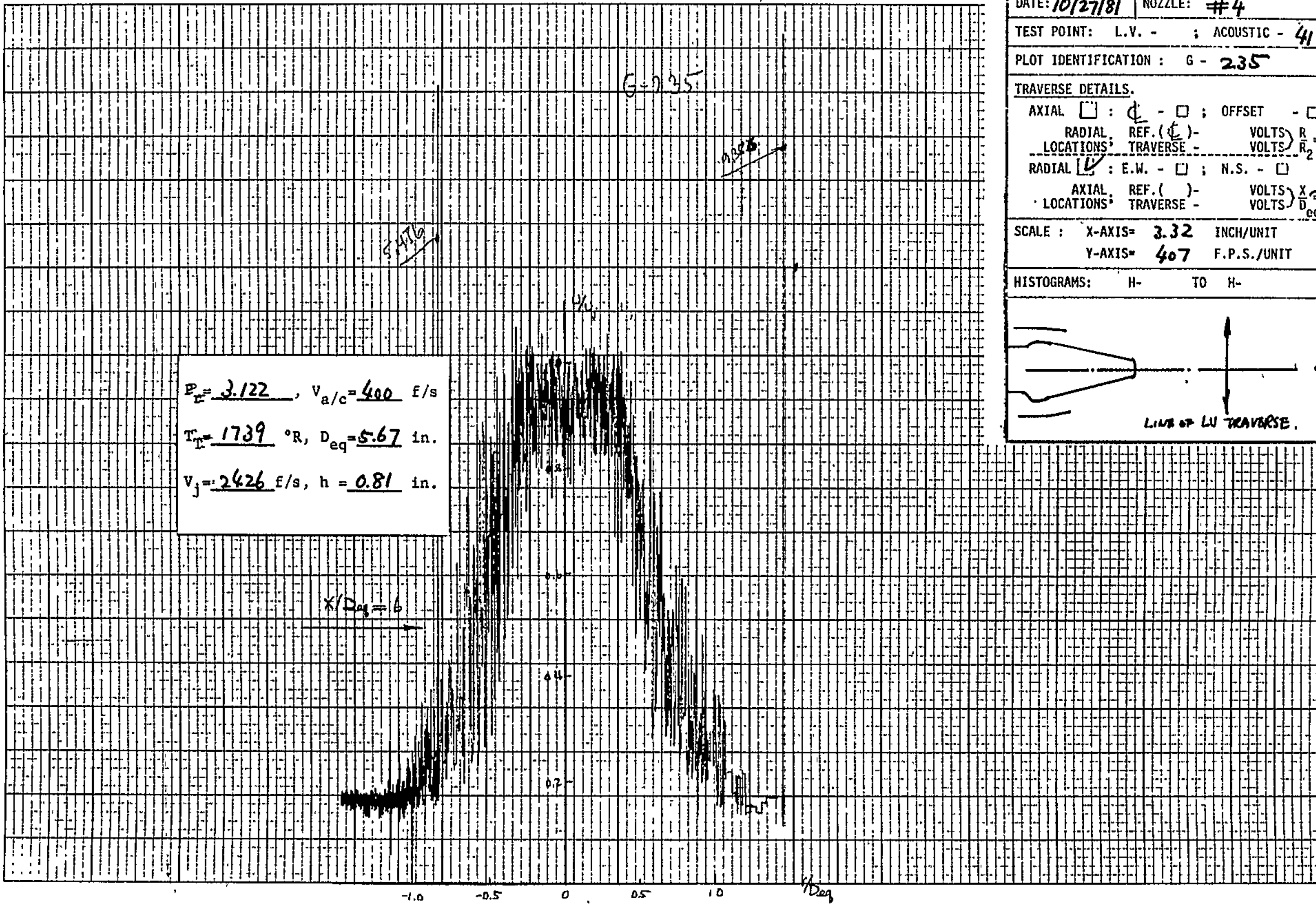
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}} \simeq 6$

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

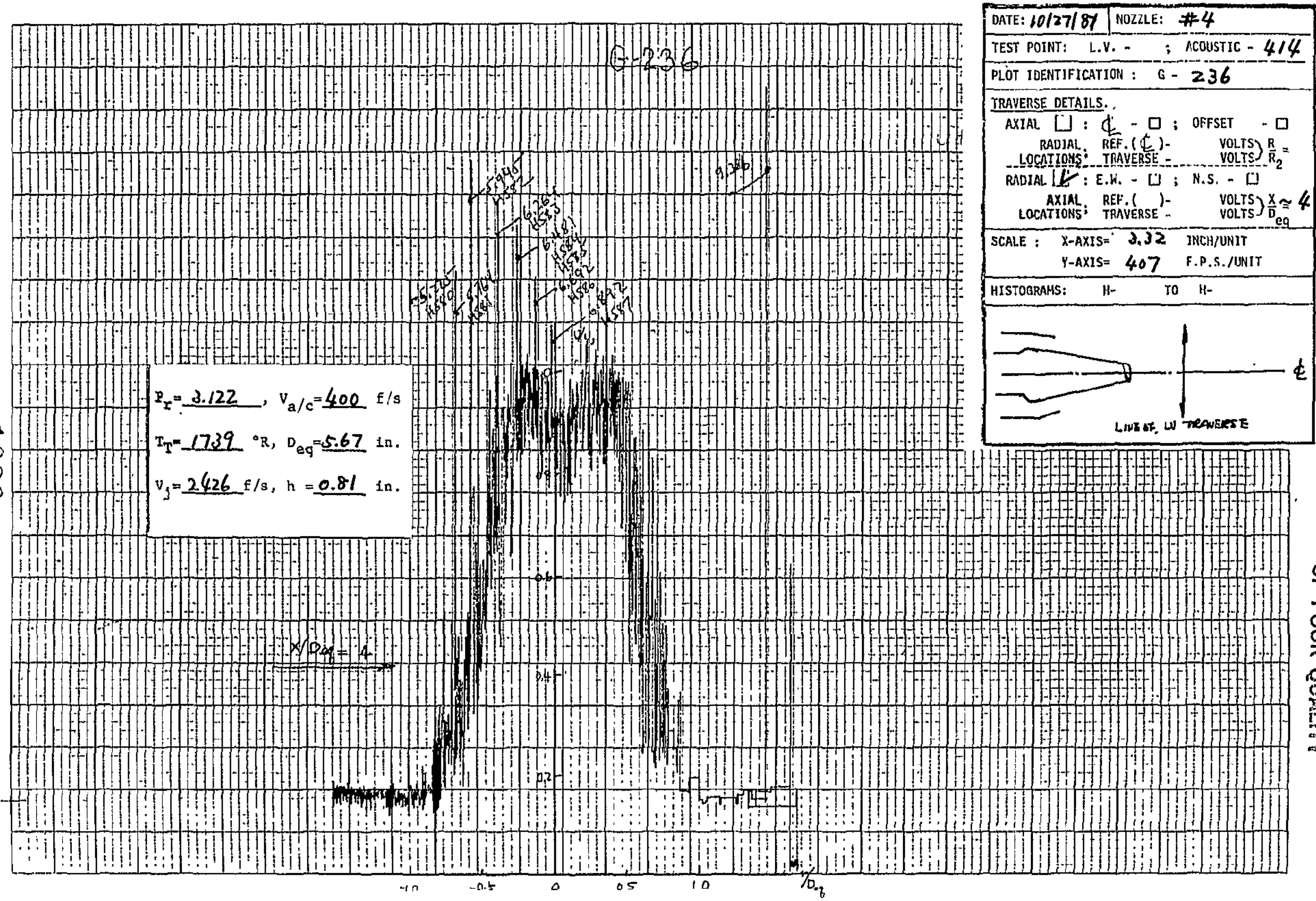
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE.



NO XY 1101

1028



1029

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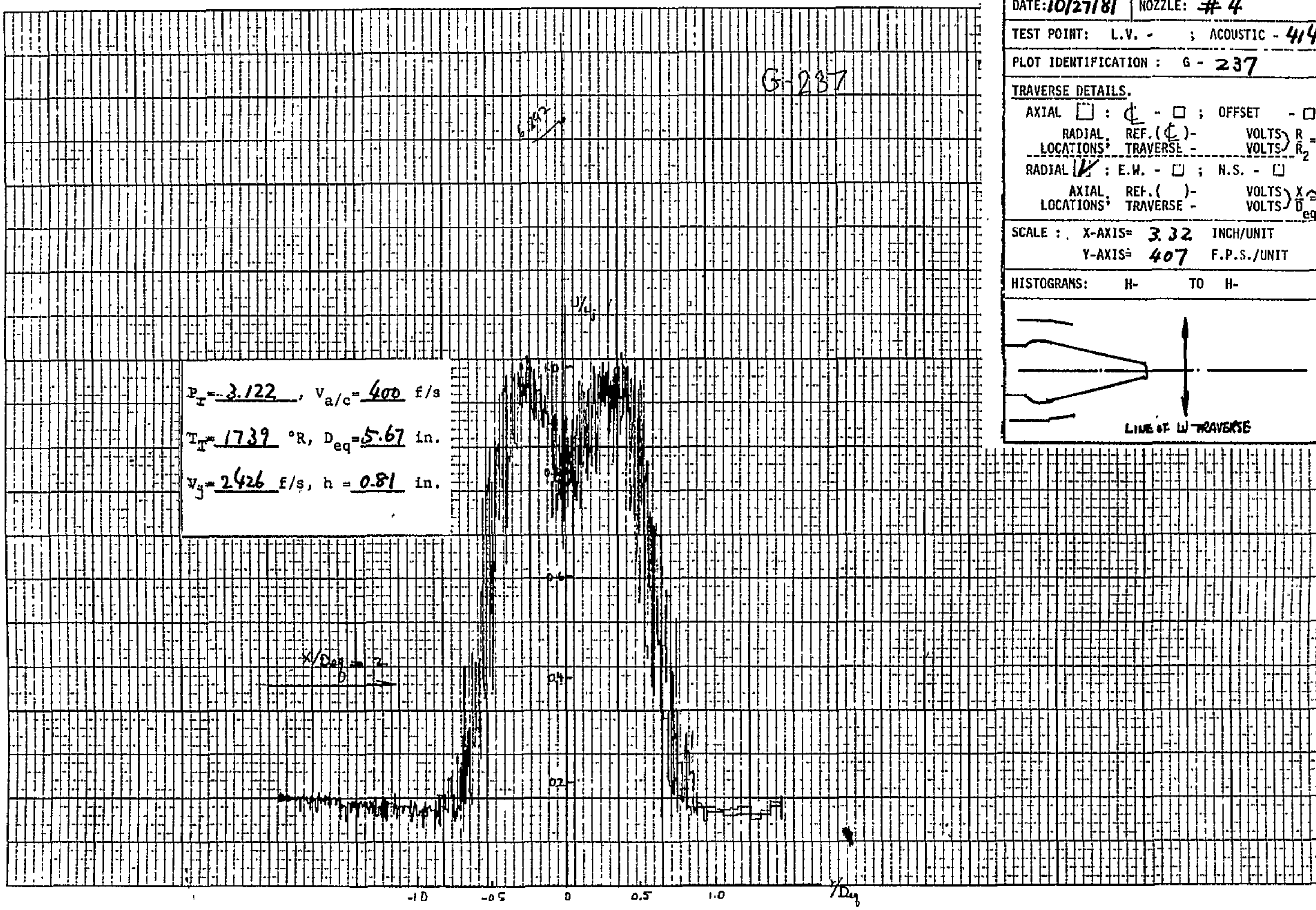


DATE: 10/27/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 414

PLOT IDENTIFICATION : G - 237

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS VOLTS } R/R_2 =

RADIAL ☑ ; E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS VOLTS } X/D_{eq} ≈ 2

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

DATE: 10/27/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 414

PLOT IDENTIFICATION : G - 238

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS, TRAVERSE - VOLTS $\frac{R}{R_2}$ =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

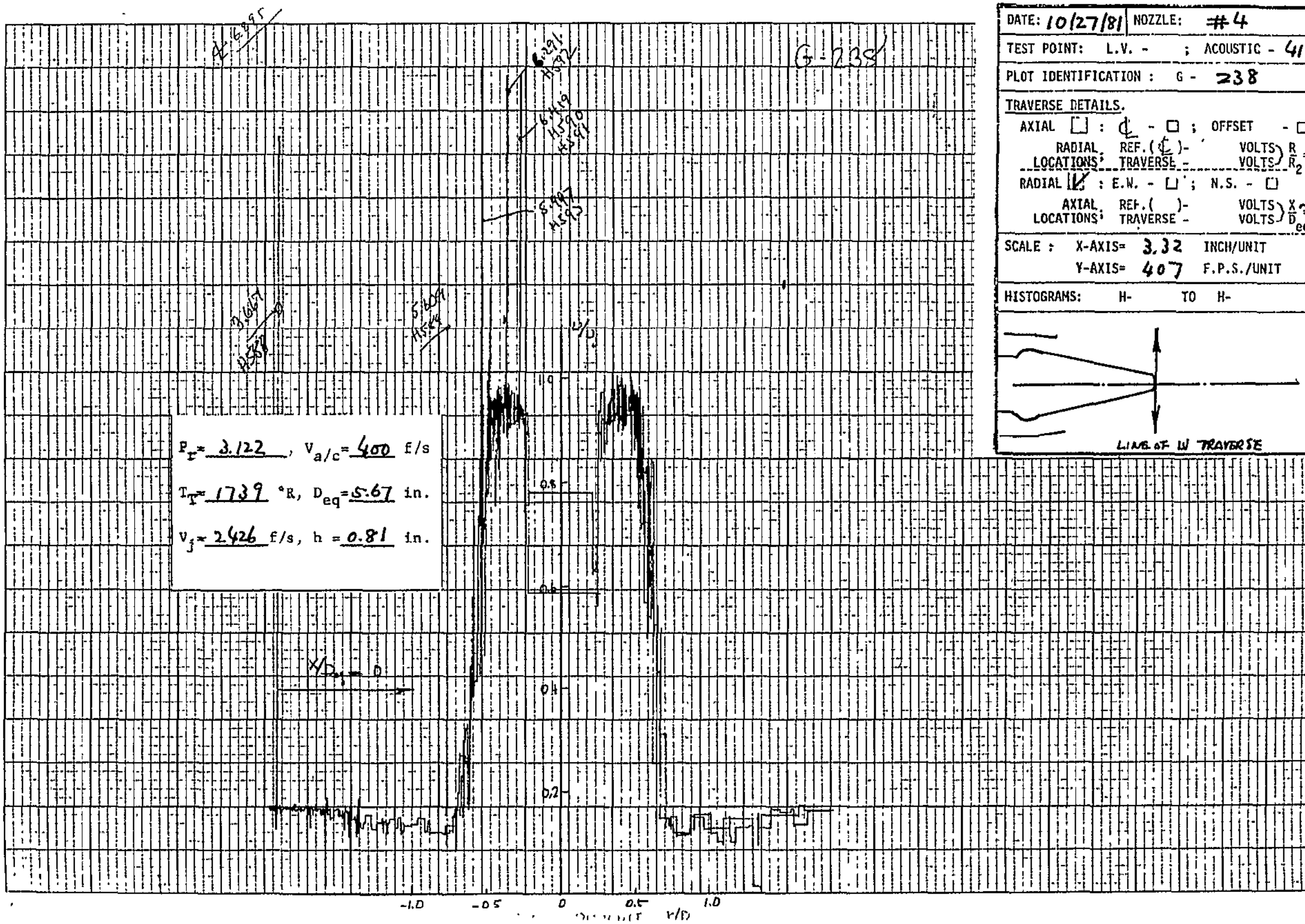
AXIAL LOCATIONS: REF.( )- VOLTS, TRAVERSE - VOLTS $\frac{X}{D_{eq}} \approx 0$

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF W TRAVERSE



No XY 1101

A-1031

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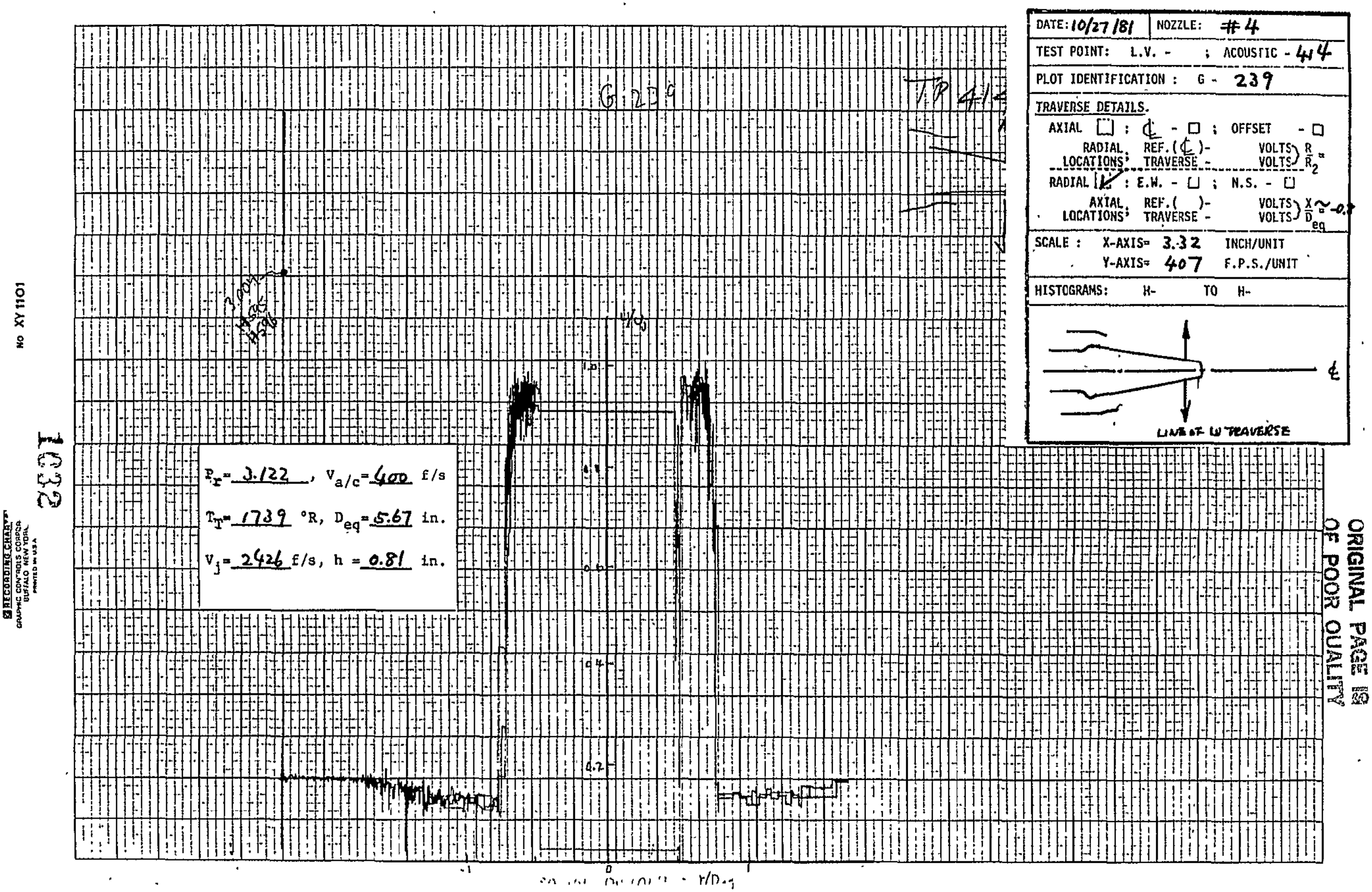
DATE: 10/27/81
NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 414
PLOT IDENTIFICATION : G - 239
TRAVERSE DETAILS.
AXIAL ; ℄ - ; OFFSET -
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS VOLTS X/Deq ≃ -0.
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
LINE OF LV TRAVERSE
P_r= 3.122 , $V_{a/c}$= 400 f/s
T_T= 1739 °R, D_{eq}= 5.67 in.
V_j= 2426 f/s, h = 0.81 in.
G 239
TP 414
U/Uj
1.0
0.8
0.6
0.4
0.2
-1
0
1
R/Deq
No XY 1101
RECORDING CHART
GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
1C32
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DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 414

PLOT IDENTIFICATION : G-240, 241, 243

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS} R/R_2 =

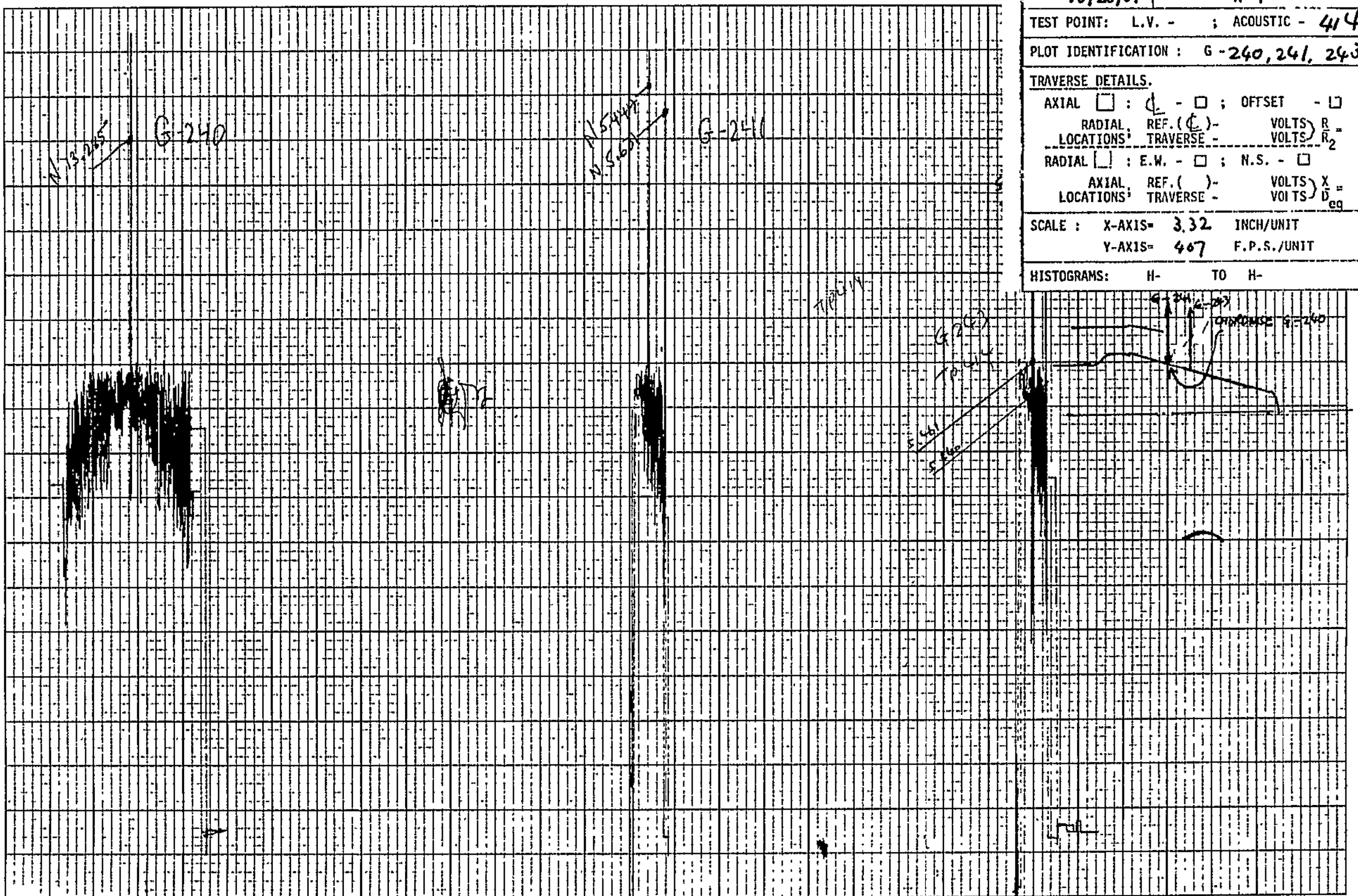
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS} X/D_{eq} =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1033

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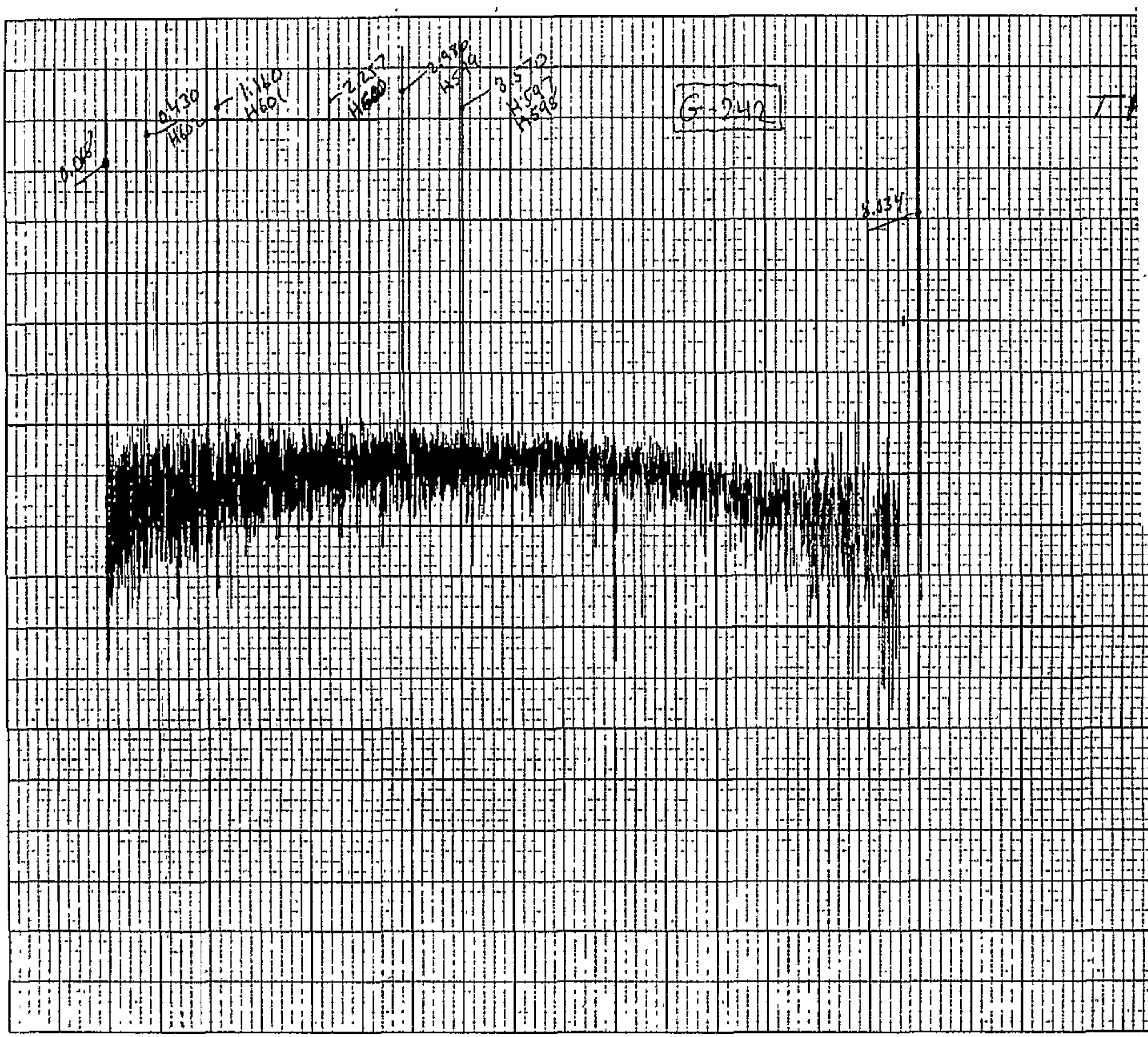


DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 414

PLOT IDENTIFICATION : G - 242

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

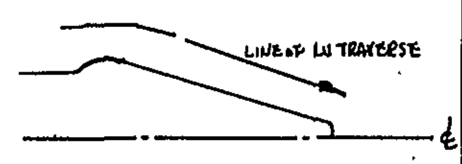
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS, REF. ( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- 597 TO H- 602

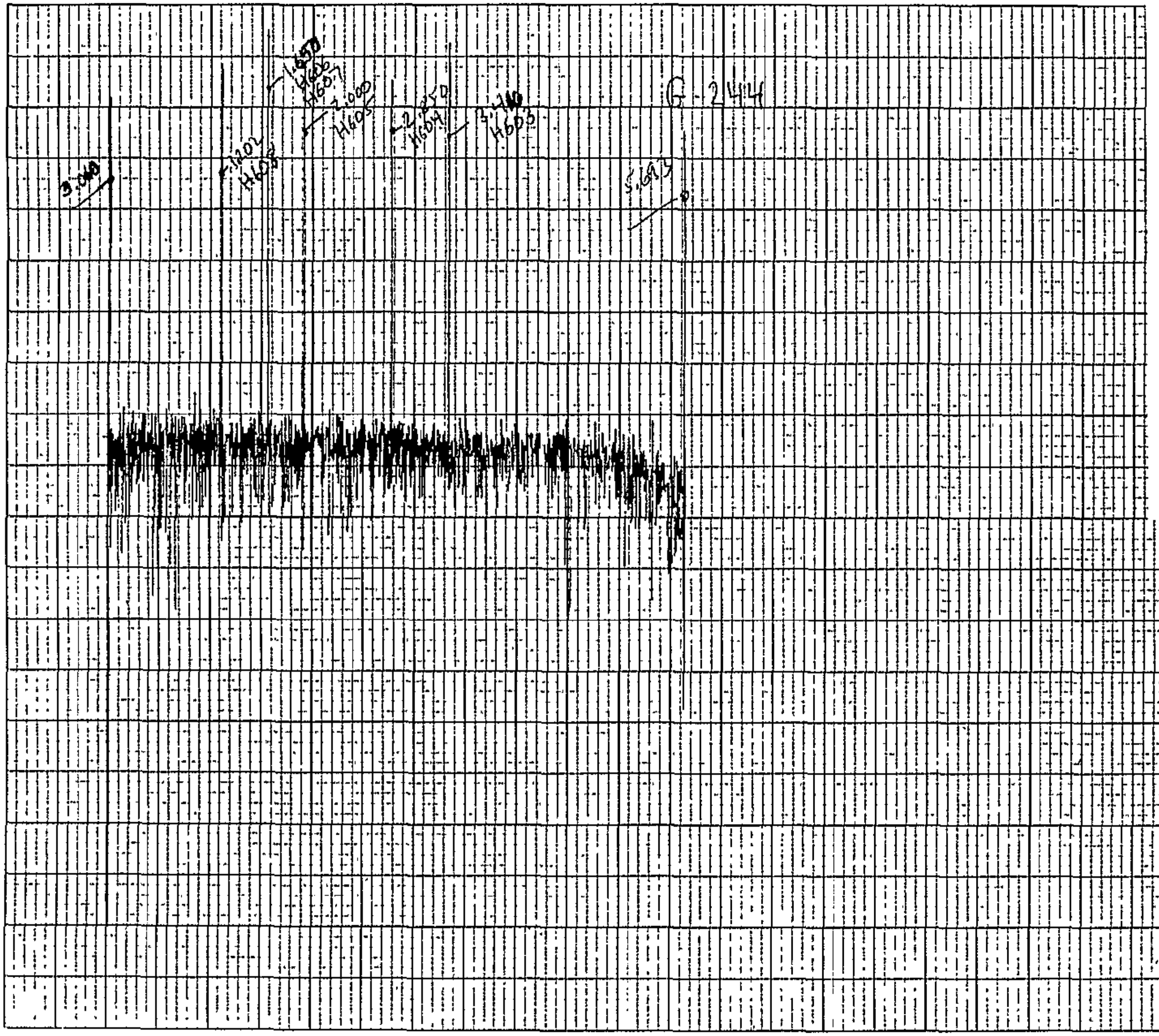


No. XY 1101

1034

No XY 1101

1035



DATE: 10/28/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 44

PLOT IDENTIFICATION : G - 244

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

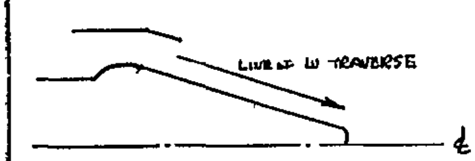
RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- 603 TO H- 608



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DATE: 10/28/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 414	
PLOT IDENTIFICATION : G - 245	

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

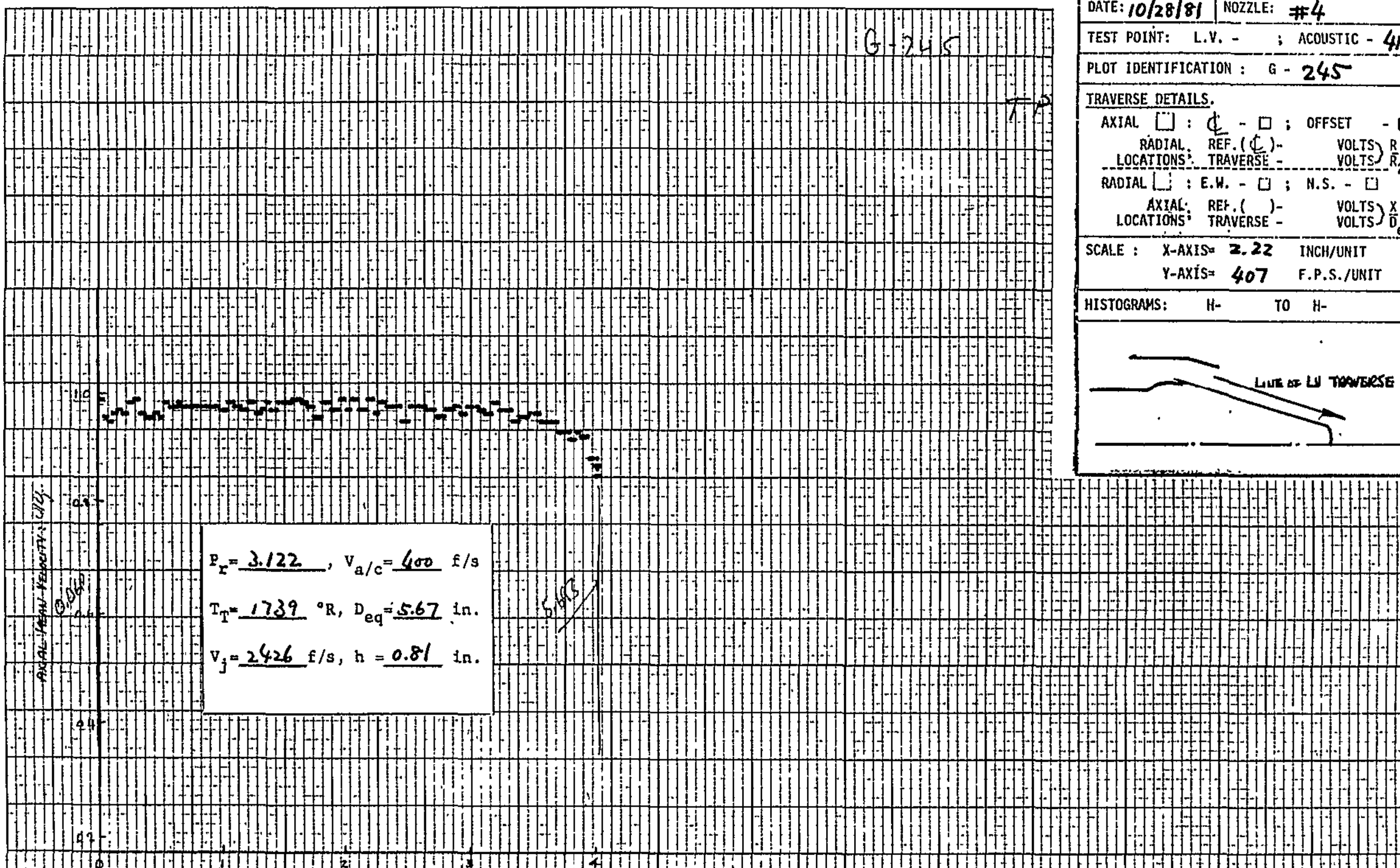
RADIAL [ ] : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

G-245

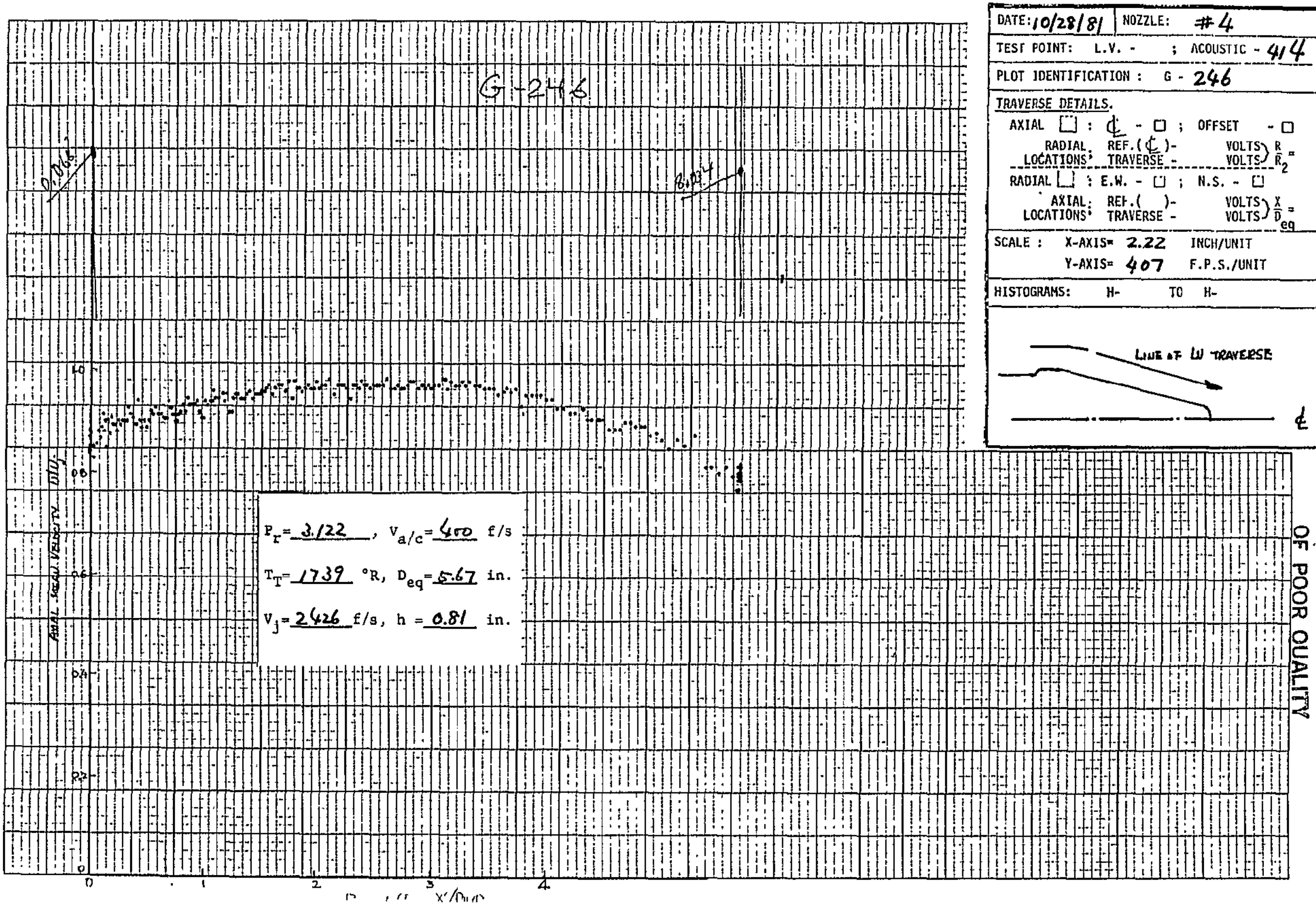


P_r= 3.122 , $V_{a/c}$= 400 f/s

T_T= 1739 °R, D_{eq}= 5.67 in.

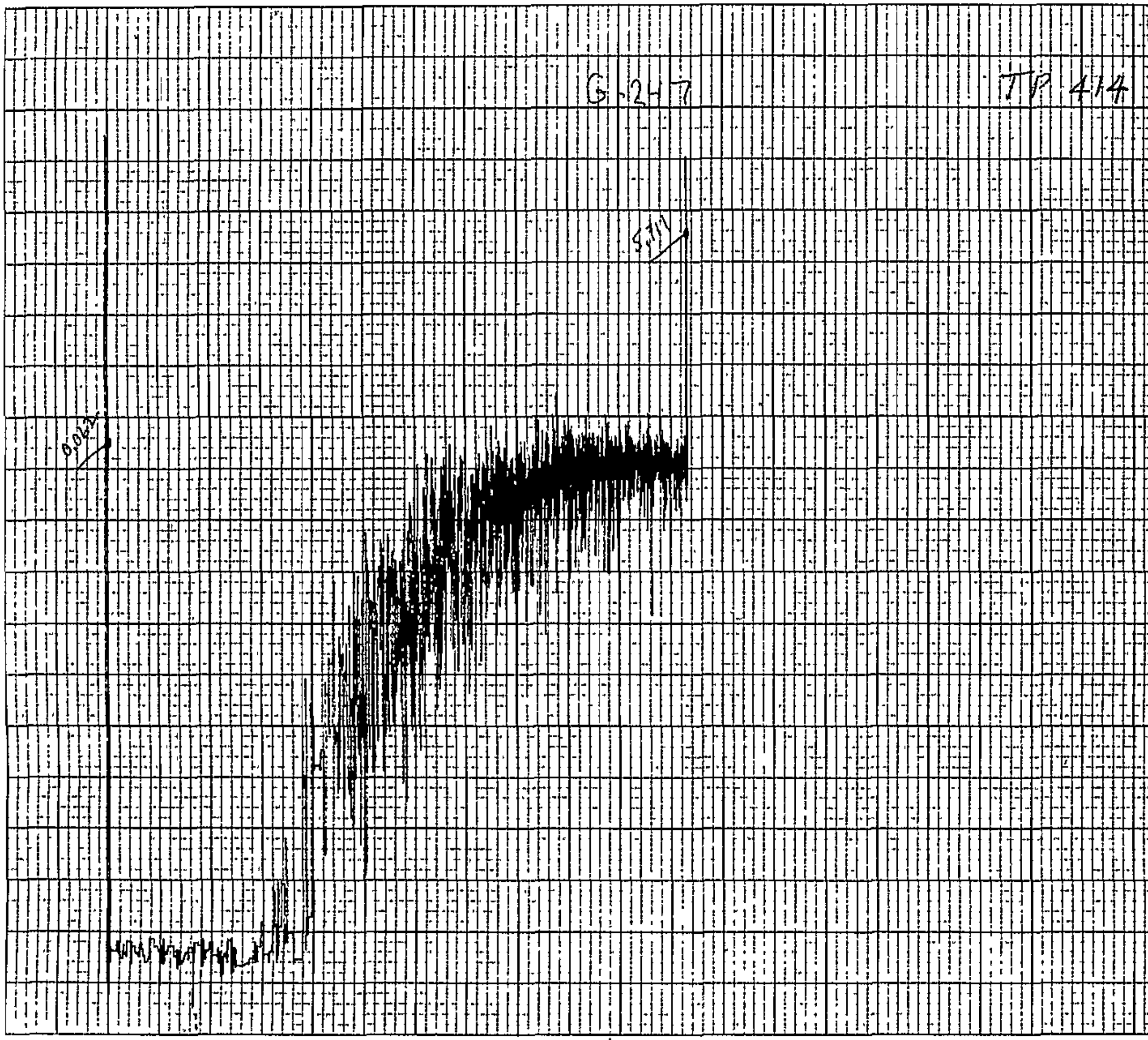
V_j= 2426 f/s, h = 0.81 in.

FIGURE — AXIAL DISTRIBUTION OF MEAN VELOCITY ALONG PLUG
Y = h/2 (h = 0.81"), 0 ≤ X/Dhyd ≤ 4


G-246
0.066
8.034
1.0
0.8
0.6
0.4
0.2
0
AXIAL MEAN VELOCITY
0
1
2
3
4
X/Deq
DATE: 10/28/81
NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 414
PLOT IDENTIFICATION : G - 246
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
P_r = 3.122 , $V_{a/c}$ = 400 f/s
T_T = 1739 °R, D_{eq} = 5.67 in.
V_j = 2426 f/s, h = 0.81 in.

No. XY 1101

1036



DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 414

PLOT IDENTIFICATION : G - 247

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

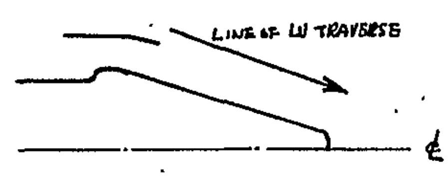
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-



NO XY 1101

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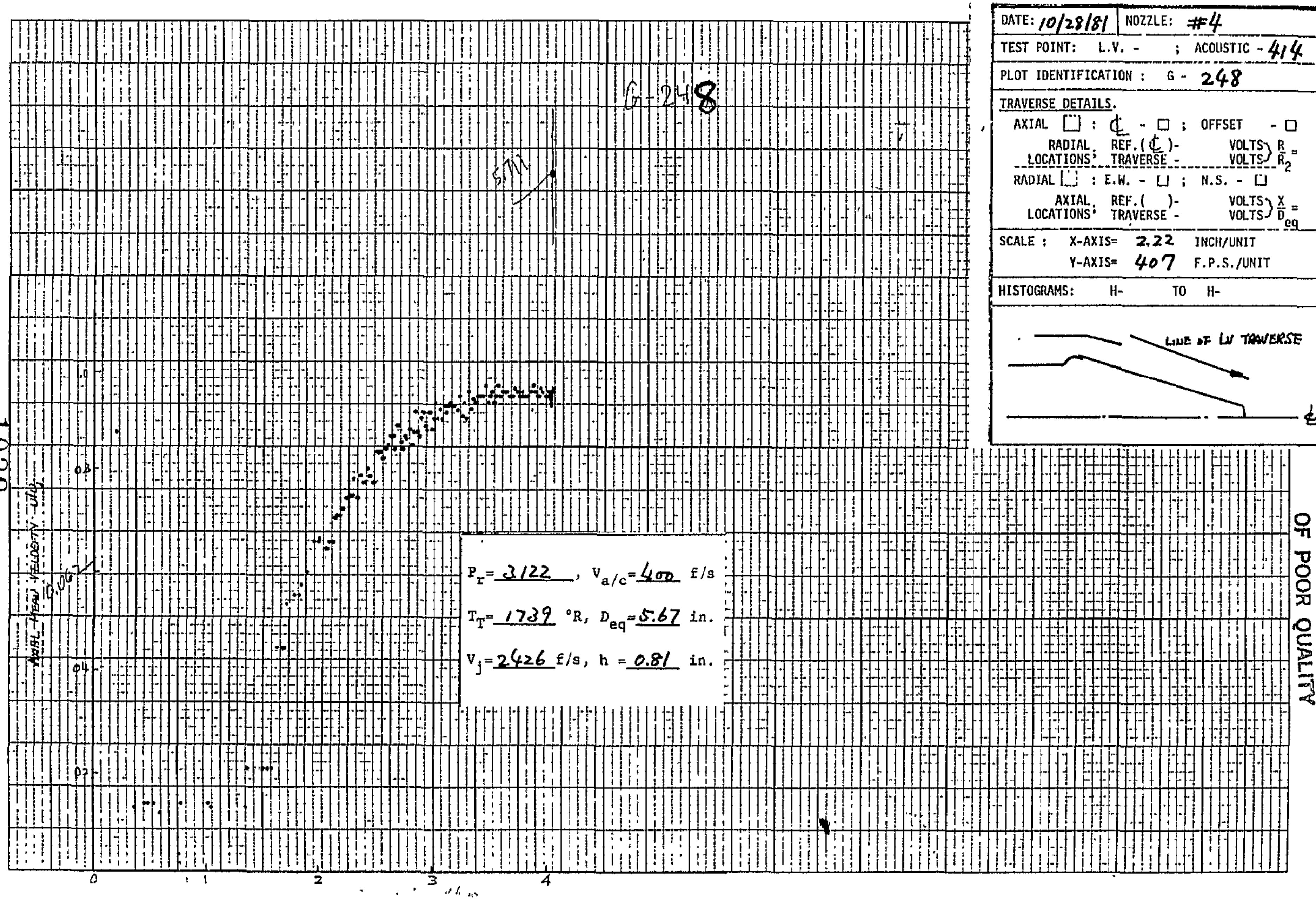
BUFFALO NEW YORK

1039



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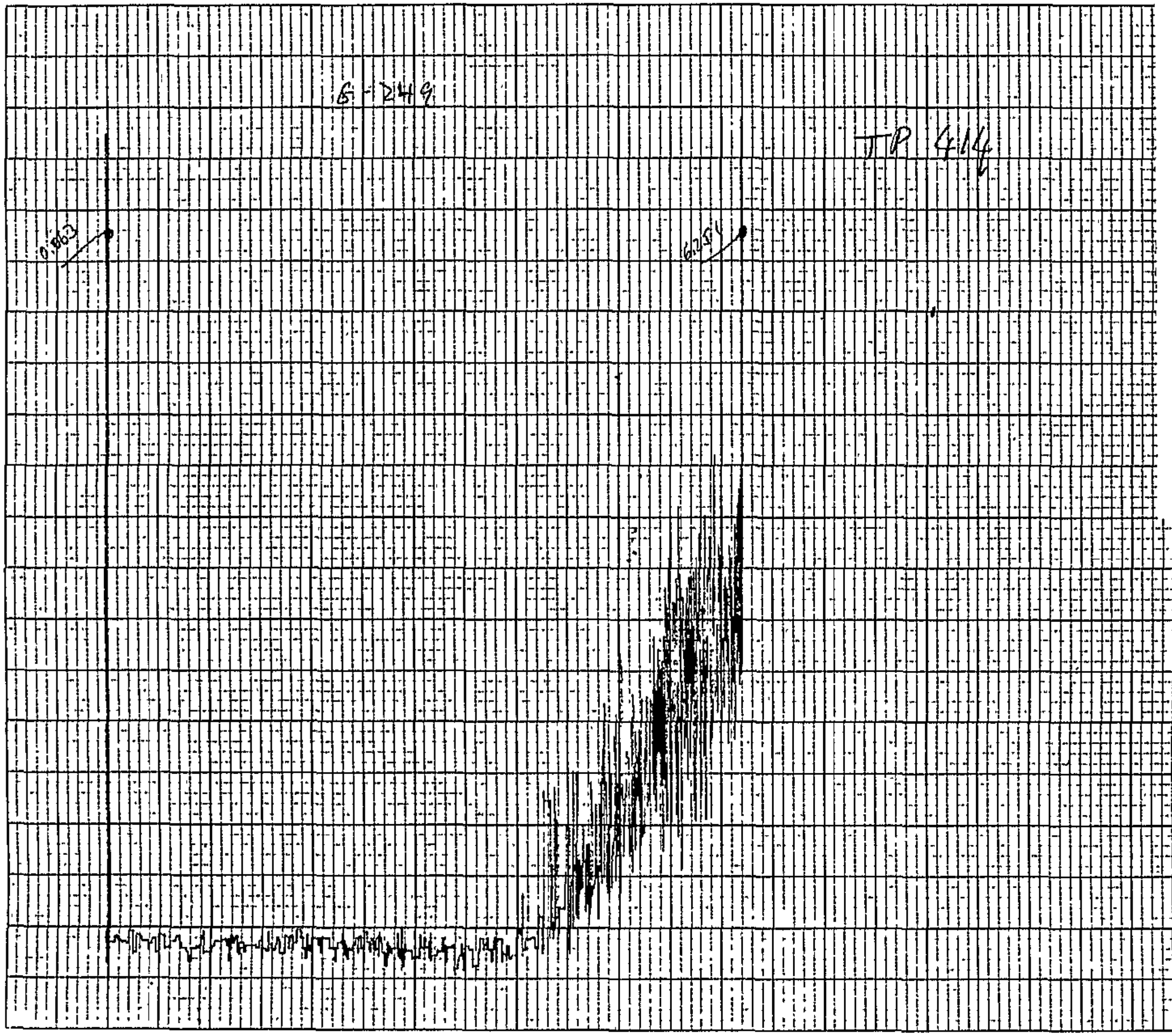


DATE: 10/28/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 414	
PLOT IDENTIFICATION : G - 249	

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - [ ] ; OFFSET - [ ]

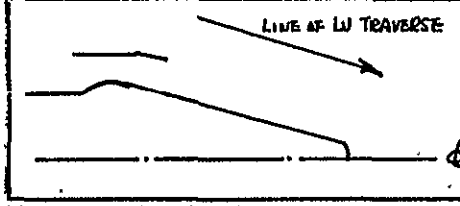
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS R/R_2 =

RADIAL [ ] : E.W. - [ ] ; N.S. - [ ]

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-



NO. XY 1101

1040

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 414

PLOT IDENTIFICATION : G - 250

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

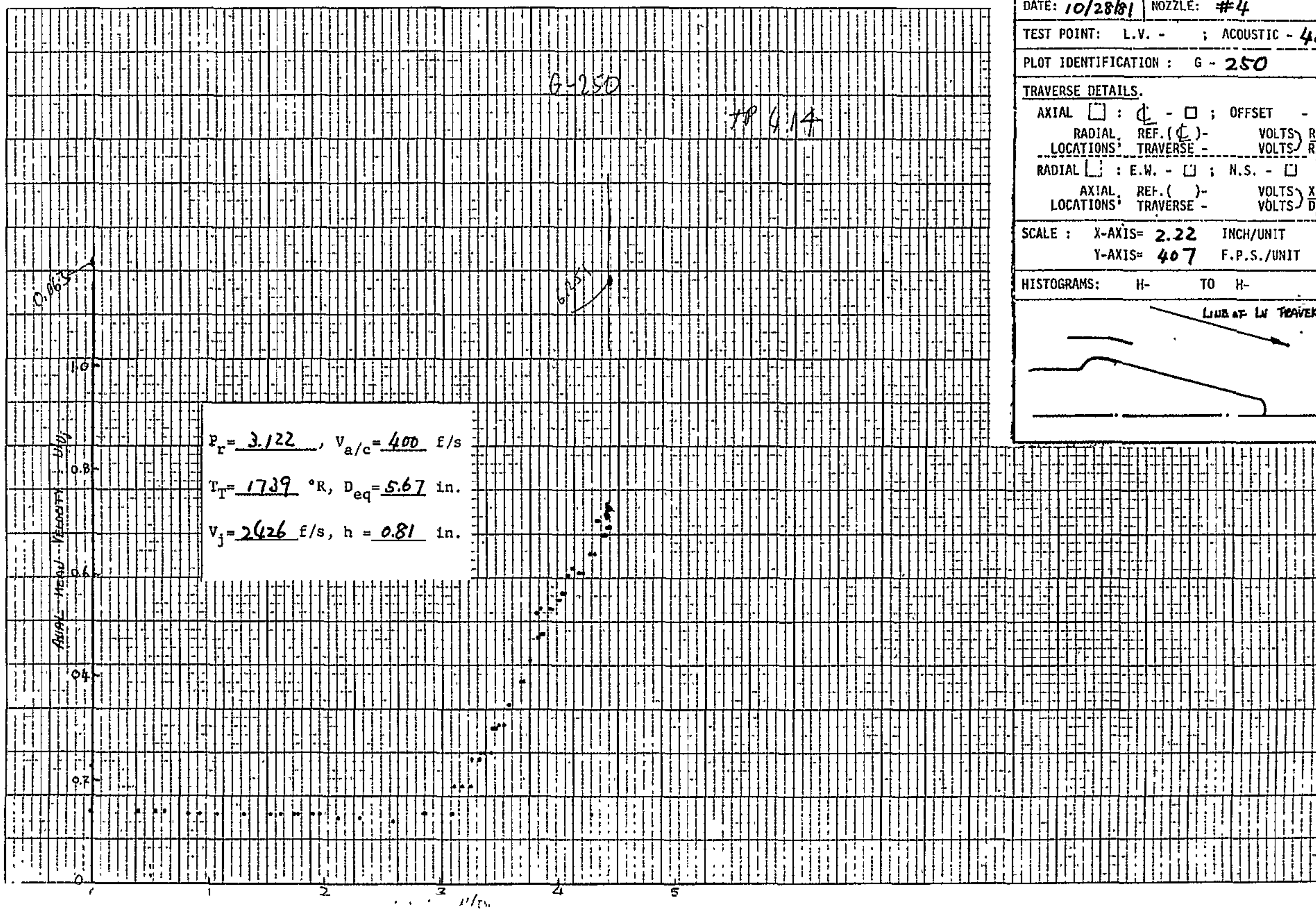
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE



No XY 1101

1042

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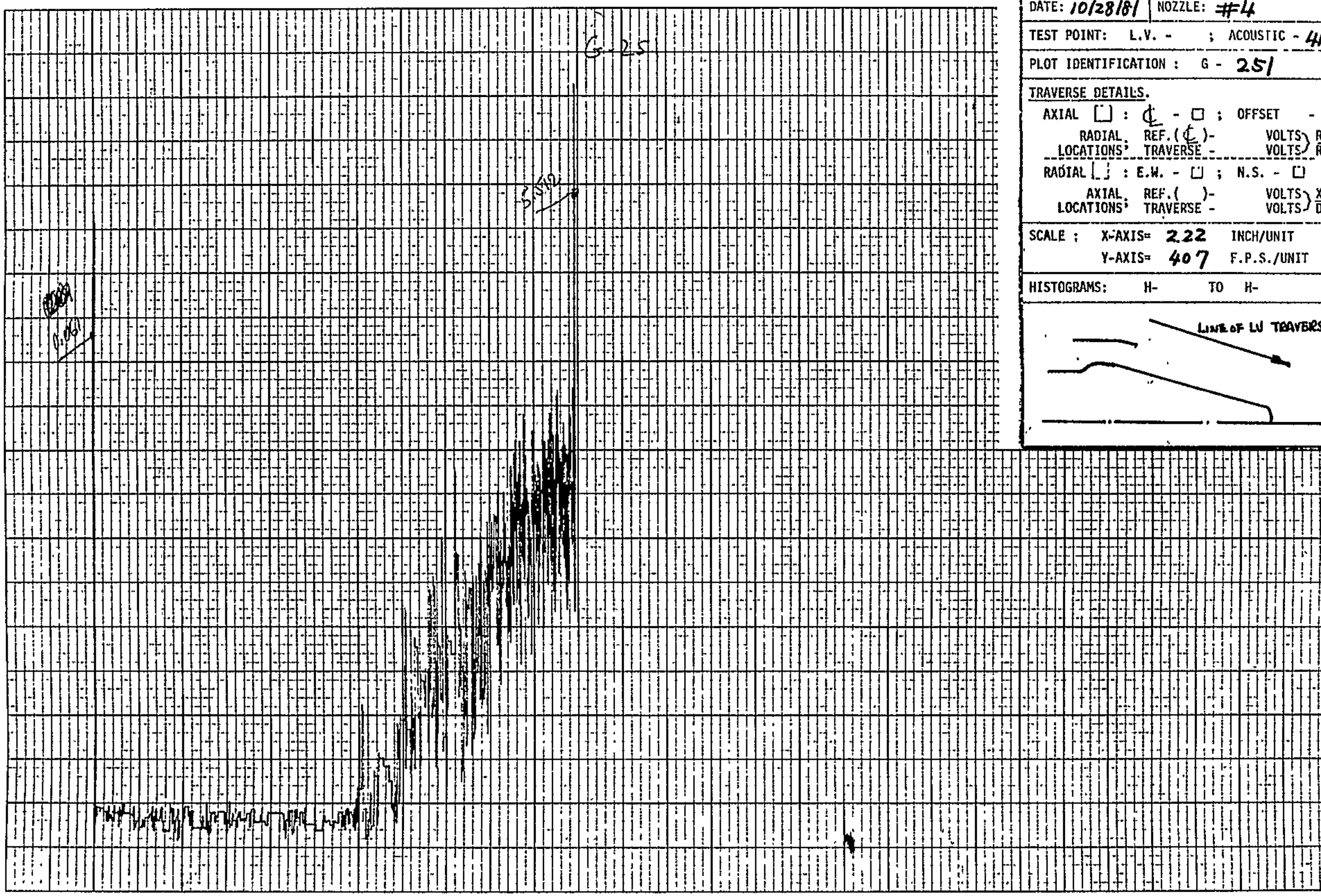

DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 414

PLOT IDENTIFICATION : G - 251

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF. (℄) - TRAVERSE - VOLTS VOLTS } $\frac{R}{R_2}$ =

RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS, REF. ( ) - TRAVERSE - VOLTS VOLTS } $\frac{X}{D_{eq}}$ =

SCALE ; X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

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DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 44

PLOT IDENTIFICATION : G - 252

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

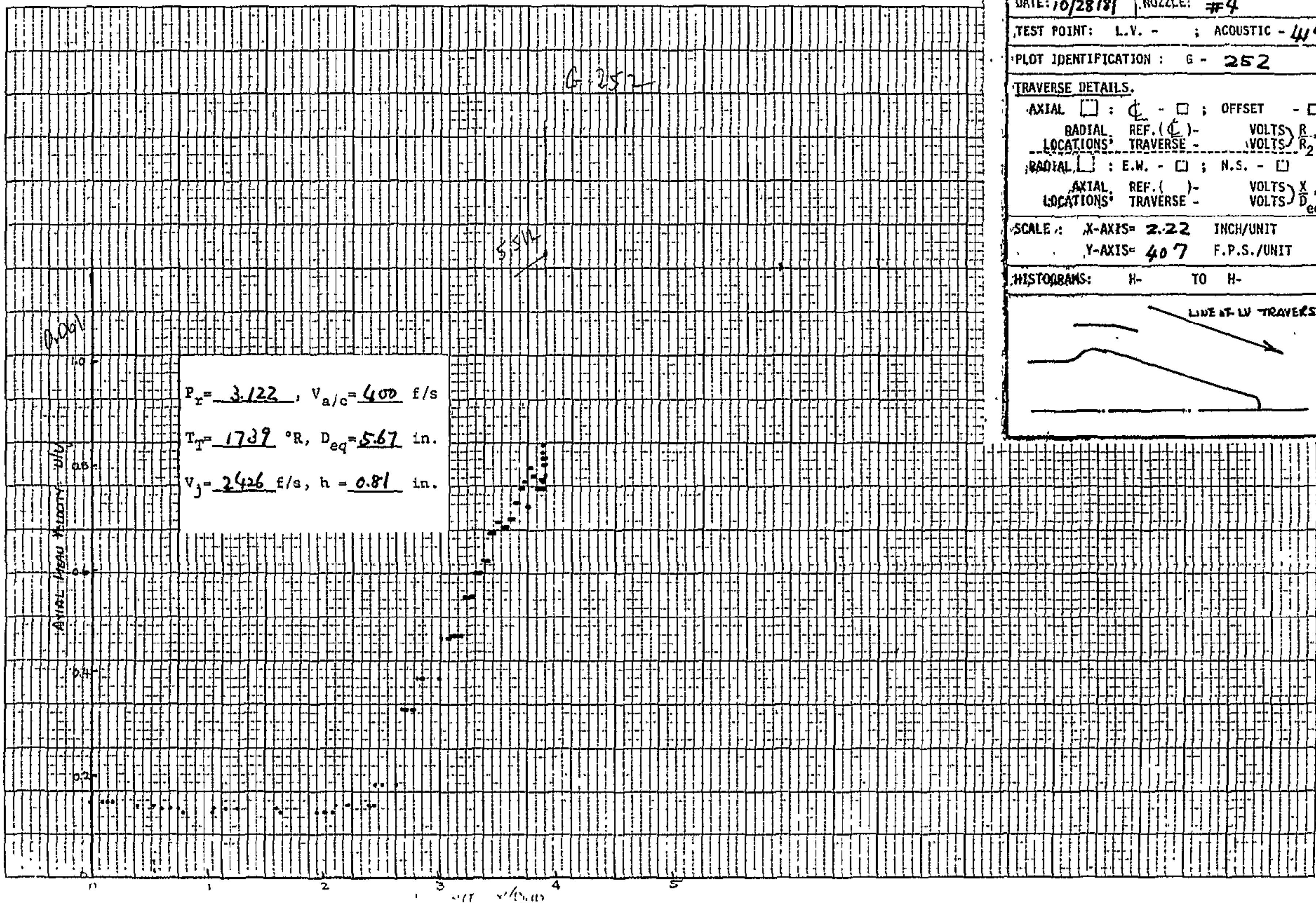
SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



No XY 1101

1043

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DATE: 10/22/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 419

PLOT IDENTIFICATION : G - 207

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

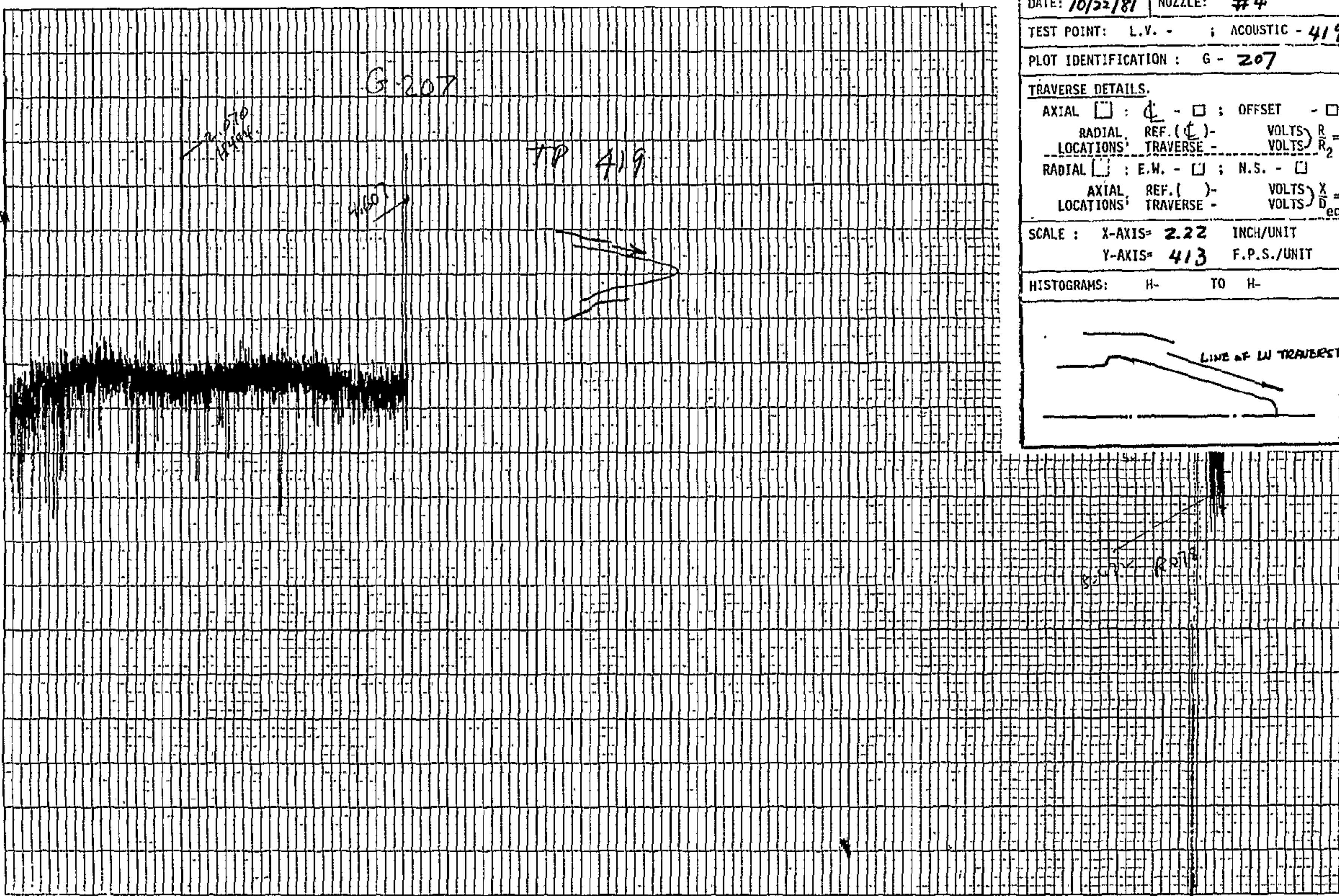
AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

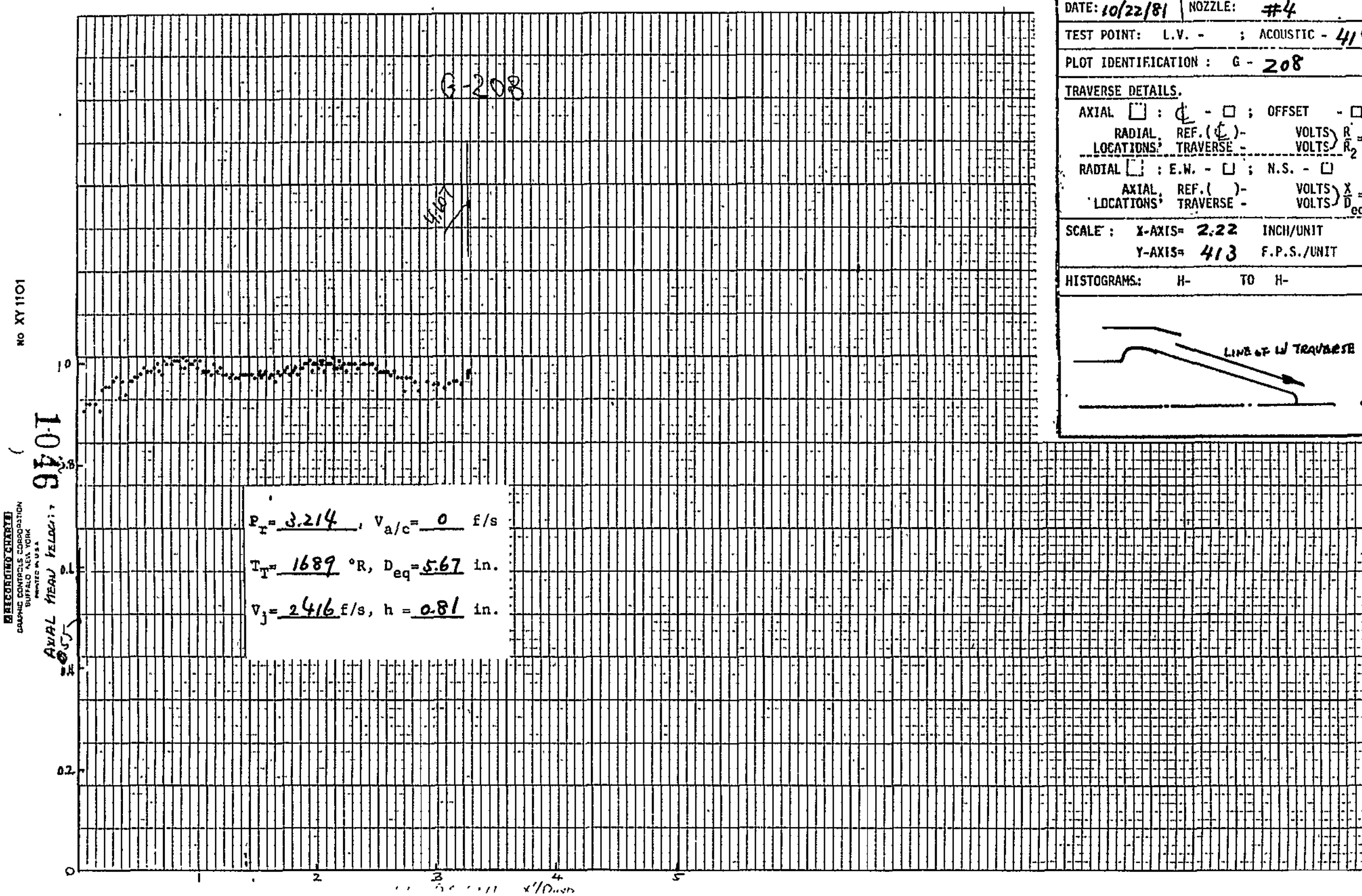
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE



NO. XY 11 01

1045



DATE: 10/22/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 419

PLOT IDENTIFICATION : G - 208

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF ℄ TRAVERSE

℄

1046

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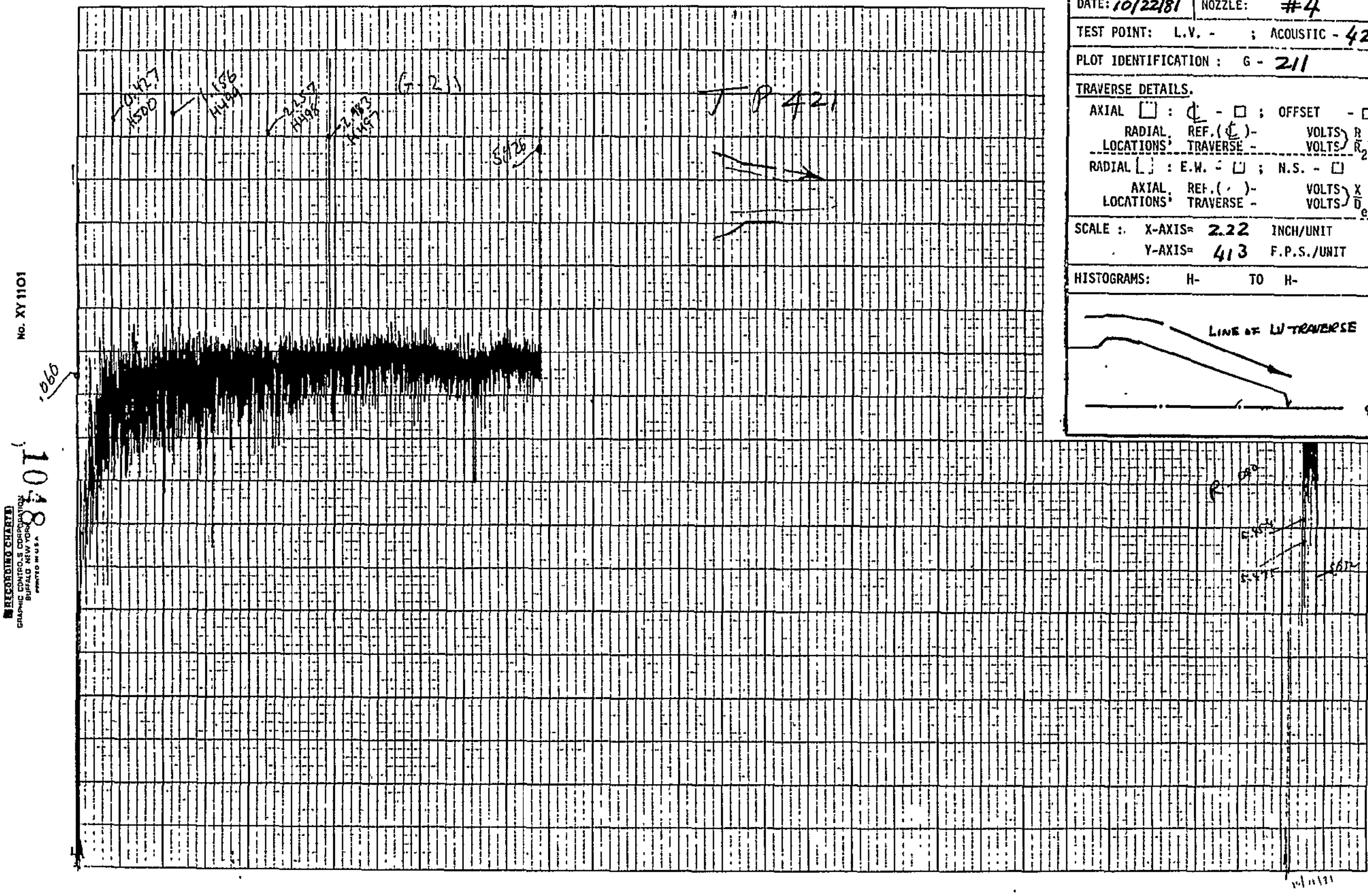
Model 4
Test Point 421



DATE: 10/22/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 421

PLOT IDENTIFICATION : G - 211

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

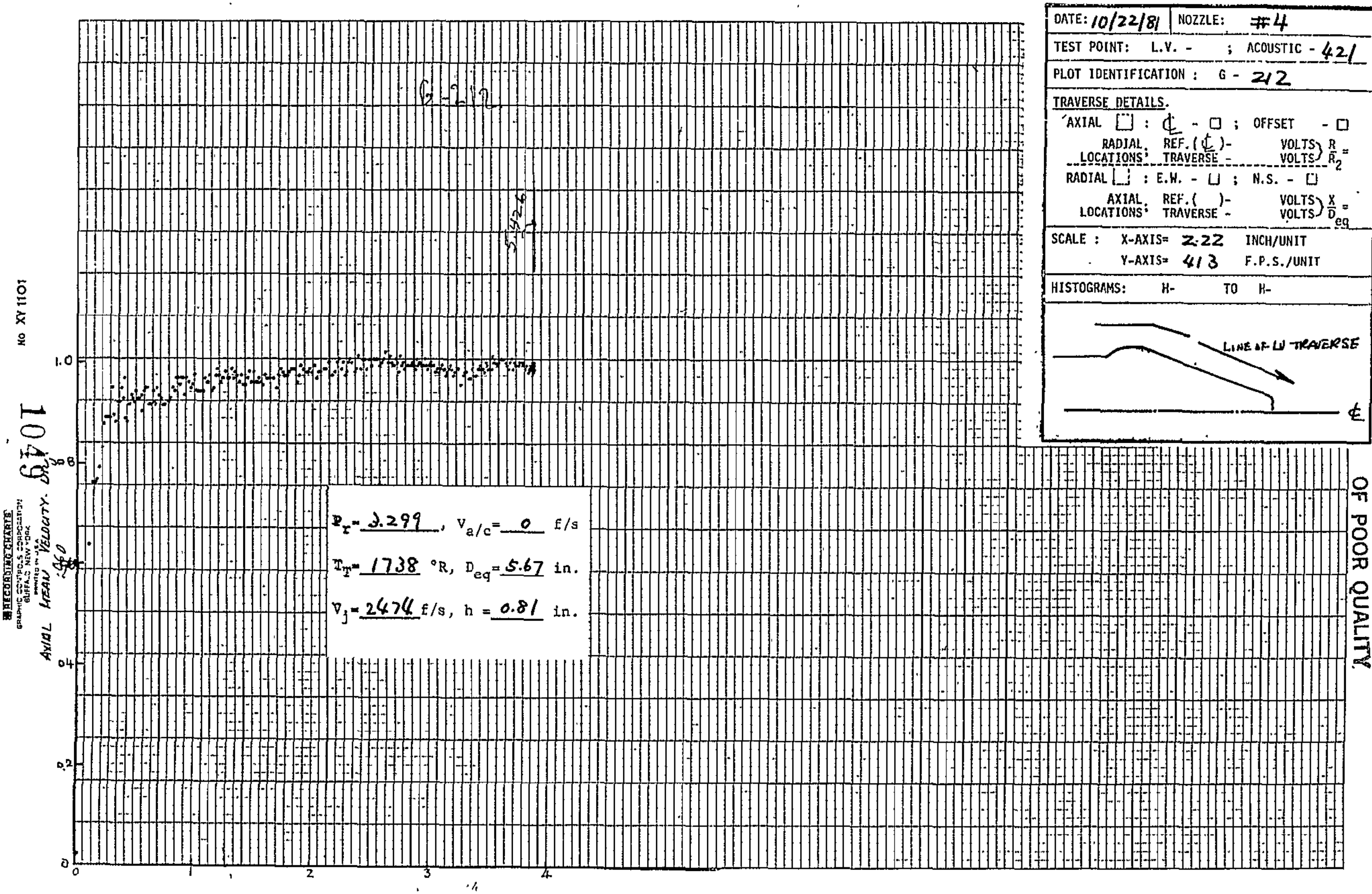
SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



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1050

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GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

DATE: 10/22/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 421

PLOT IDENTIFICATION : G - 213

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

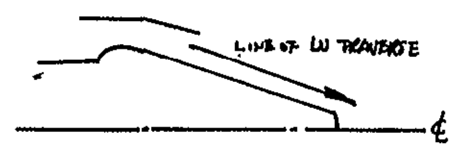
RADIAL [ ] : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H-501 TO H-511



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DATE: 10/22/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 421

PLOT IDENTIFICATION : G - 214

TRAVERSE DETAILS.

AXIAL [ ] : ℄ - [ ] ; OFFSET - [ ]

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - ; VOLTS / VOLTS $\frac{R}{R_2}$ =

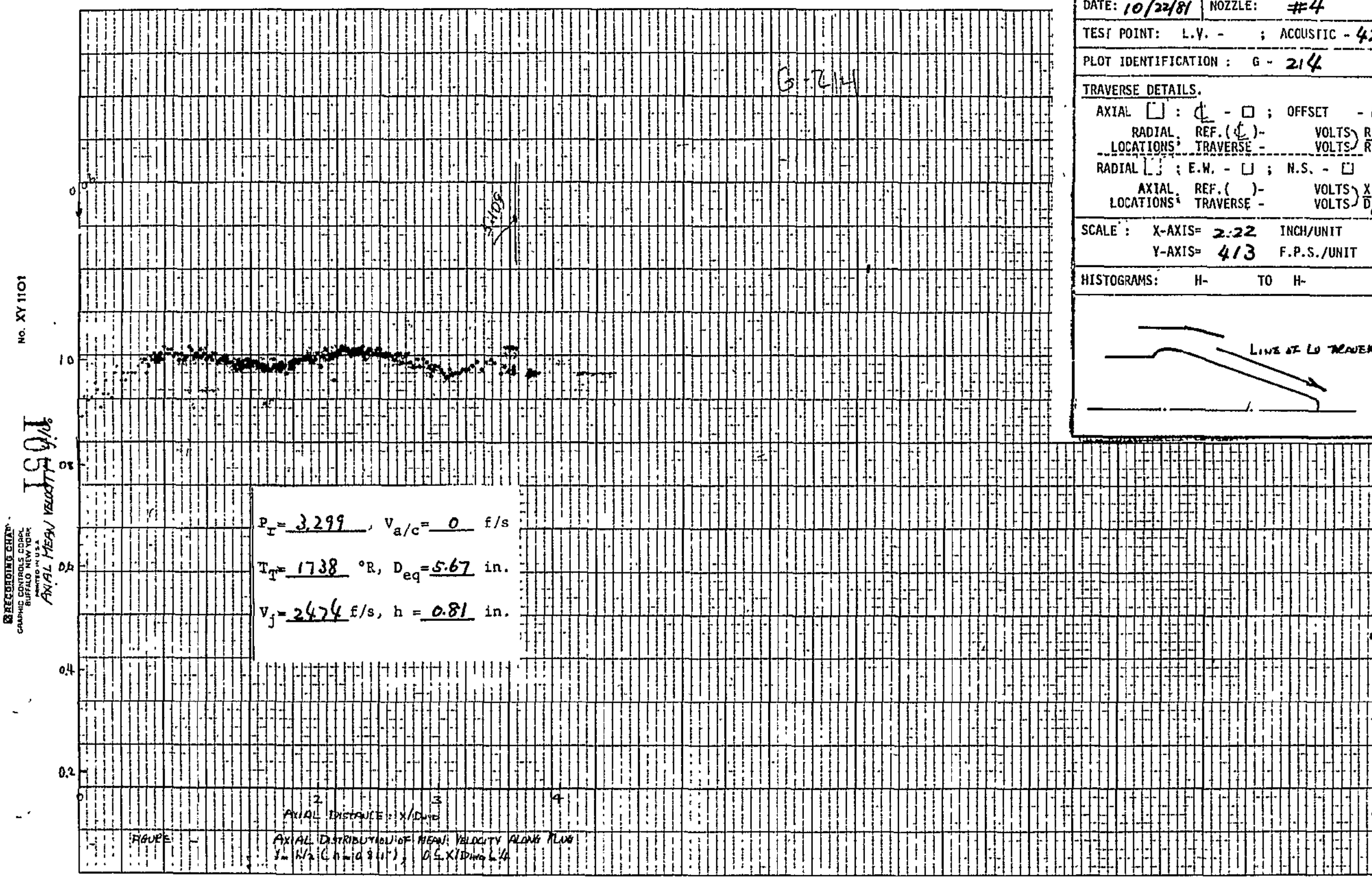
RADIAL [ ] ; E.W. - [ ] ; N.S. - [ ]

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - ; VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 413 F.P.S./UNIT

HISTOGRAMS: H- TO H-



P_T = 3.299 , $V_{a/c}$ = 0 f/s

T_T = 1738 °R, D_{eq} = 5.67 in.

V_j = 2474 f/s, h = 0.81 in.

FIGURE AXIAL DISTRIBUTION OF MEAN VELOCITY ALONG PLUG y = h/2 (h = 0.81"), 0 ≤ X/Deq ≤ 4

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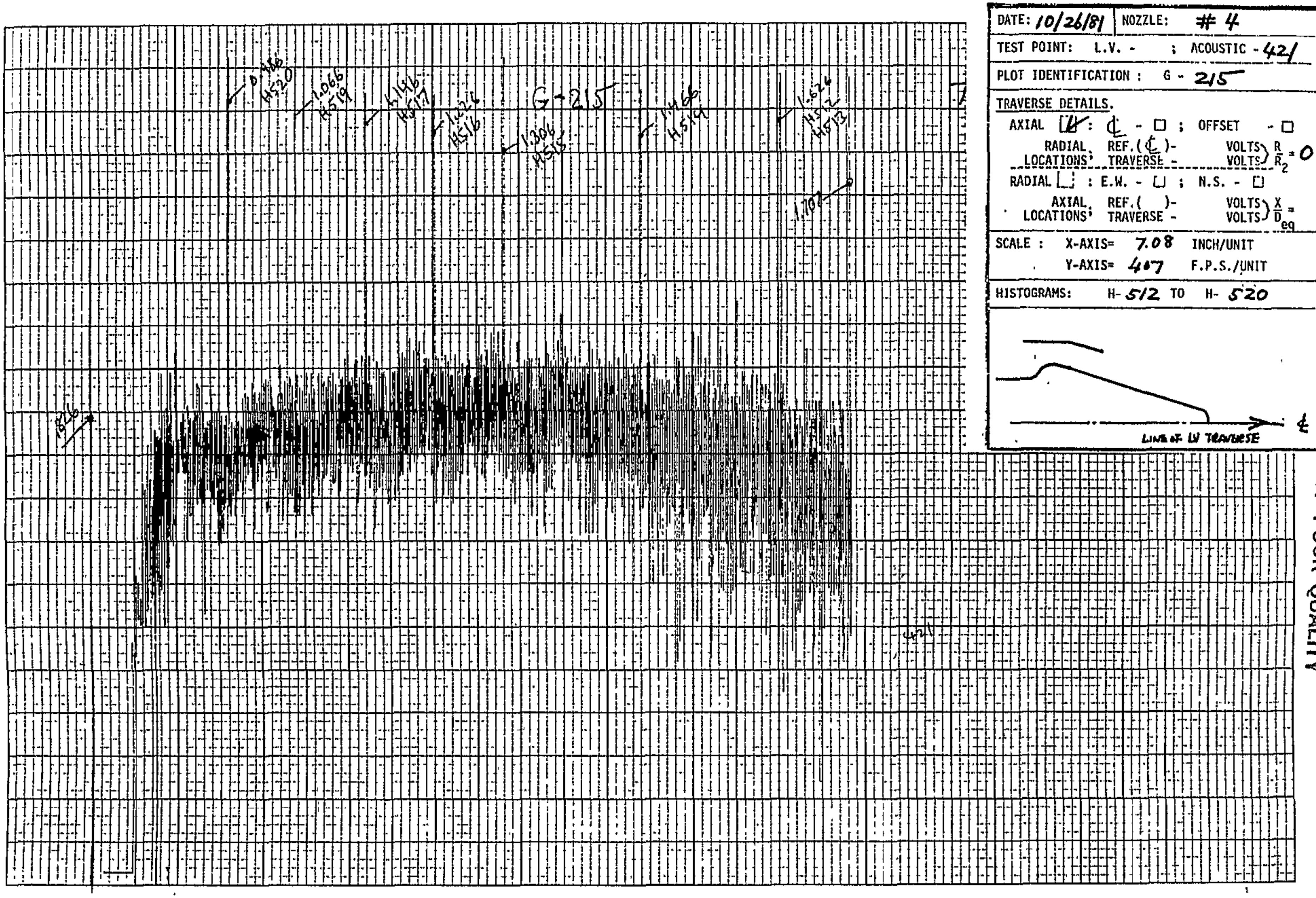

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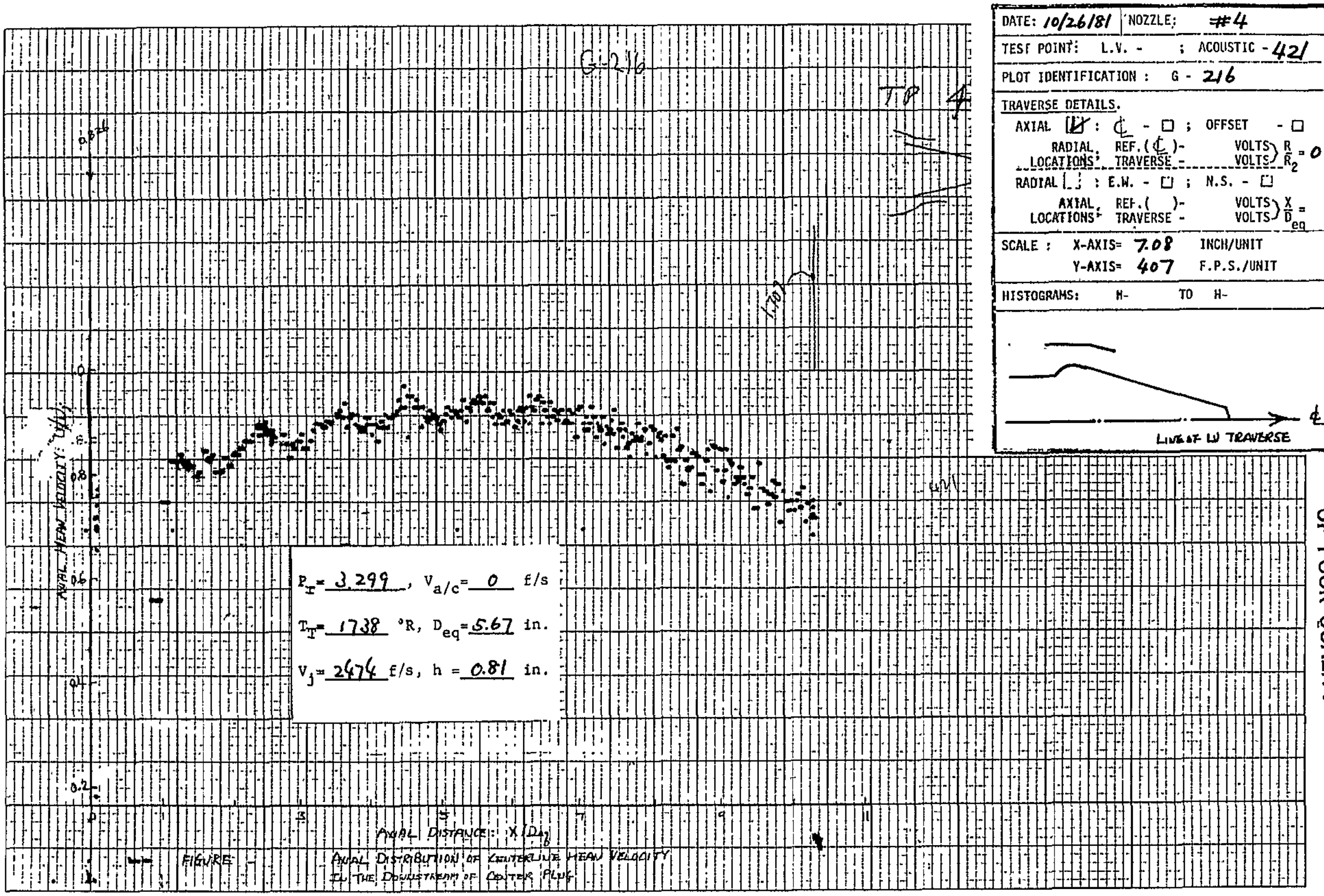

NO XY 1101

1053

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DATE: 10/26/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 421	
PLOT IDENTIFICATION : G - 217	

TRAVERSE DETAILS.

AXIAL [X] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ = 1

RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

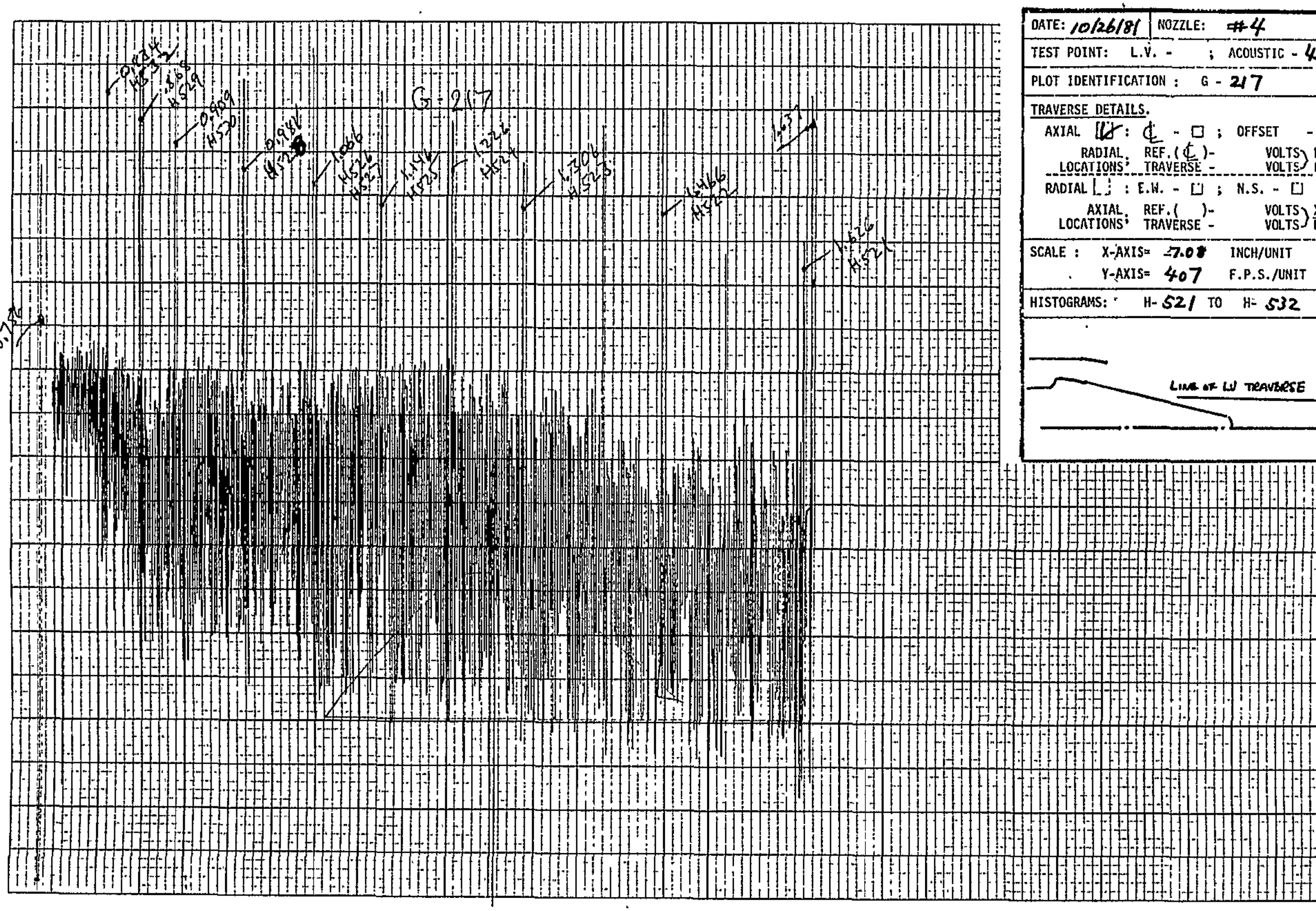
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- 521 TO H- 532

LINE OF LV TRAVERSE

℄



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1054

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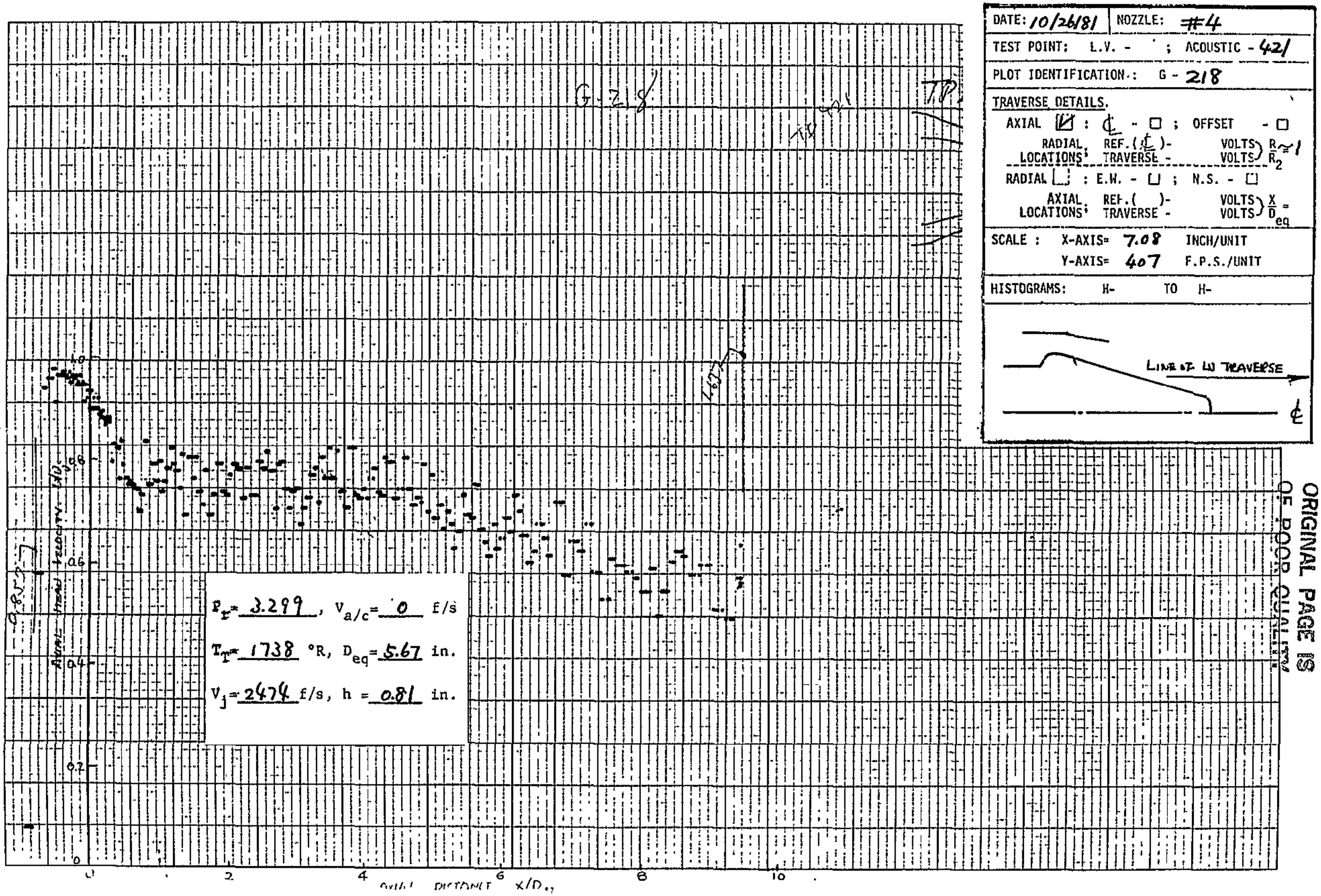
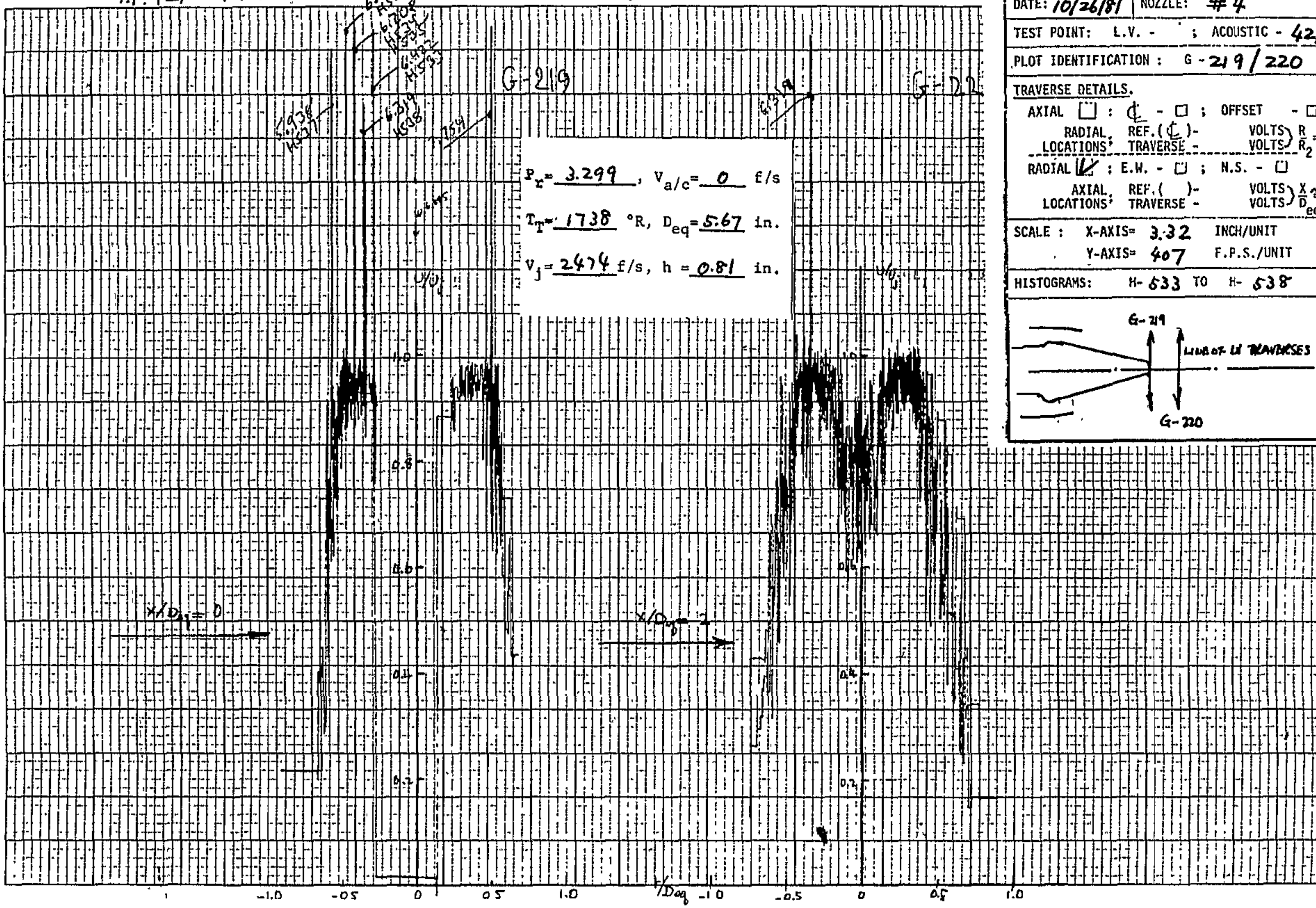
1055


DATE: 10/26/81
NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 421
PLOT IDENTIFICATION: G - 218
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $R/R_2 \approx 1$
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS X/D_{eq} =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
G-218
P_r= 3.299 , $V_{a/c}$= 0 f/s
T_T= 1738 °R, D_{eq}= 5.67 in.
V_j= 2474 f/s, h = 0.81 in.
AXIAL MEAN VELOCITY
1.0
0.8
0.6
0.4
0.2
0
2
4
6
8
10
AXIAL DISTANCE X/D

T.P. 421 RADIAL DISTR. OF MEAN VELOCITY (1)



DATE: 10/26/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 421

PLOT IDENTIFICATION : G - 219 / 220

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF. (℄)-TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

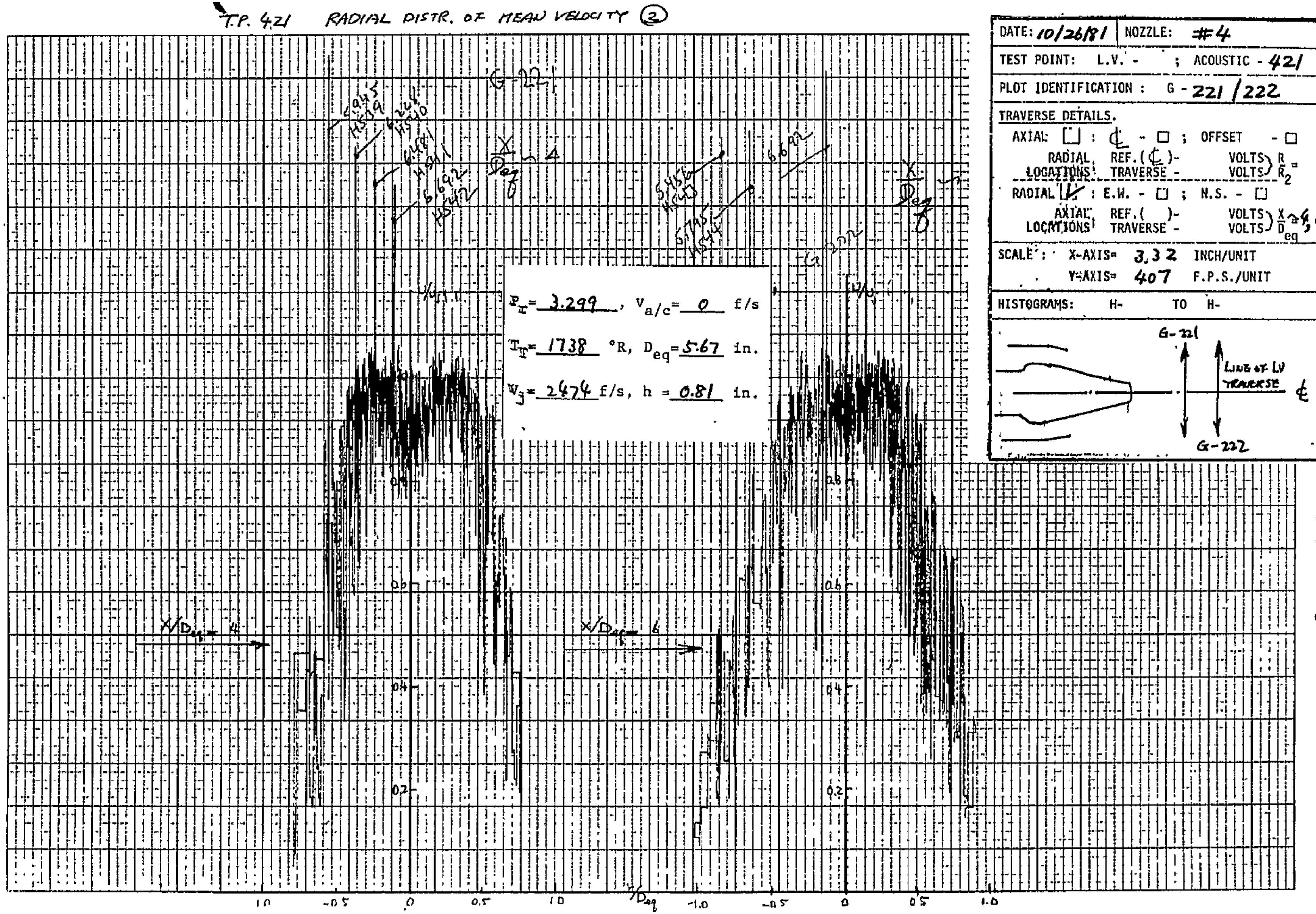
AXIAL LOCATIONS, REF. ( )-TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0, 2

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- 533 TO H- 538

T.P. 421 RADIAL DISTR. OF MEAN VELOCITY ②



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1057

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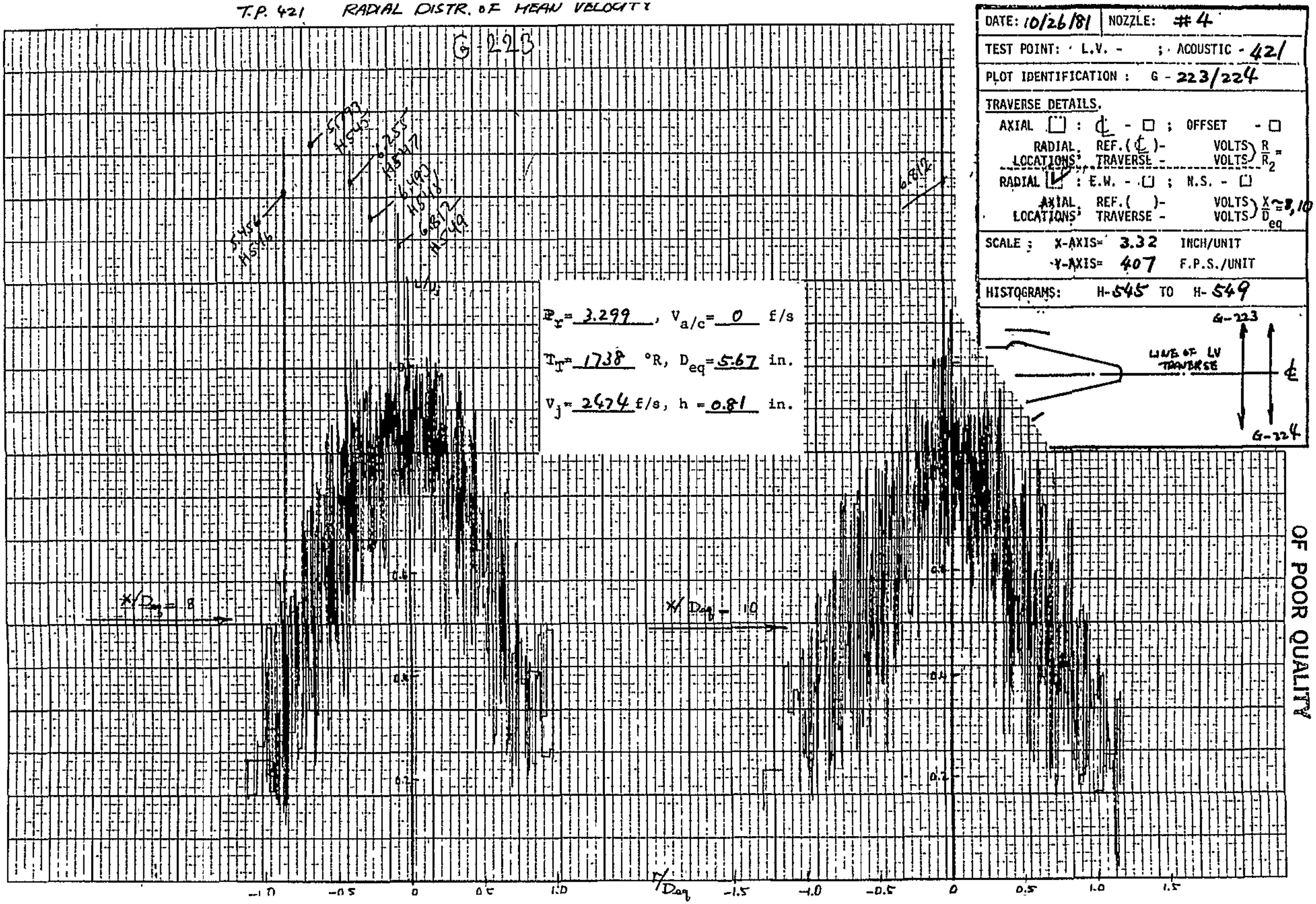
T.P. 421 RADIAL DISTR. OF MEAN VELOCITY



Model 4
Test Point 422

NO XY 1101

1060

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DATE: 10/28/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 422	
PLOT IDENTIFICATION : G - 253	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

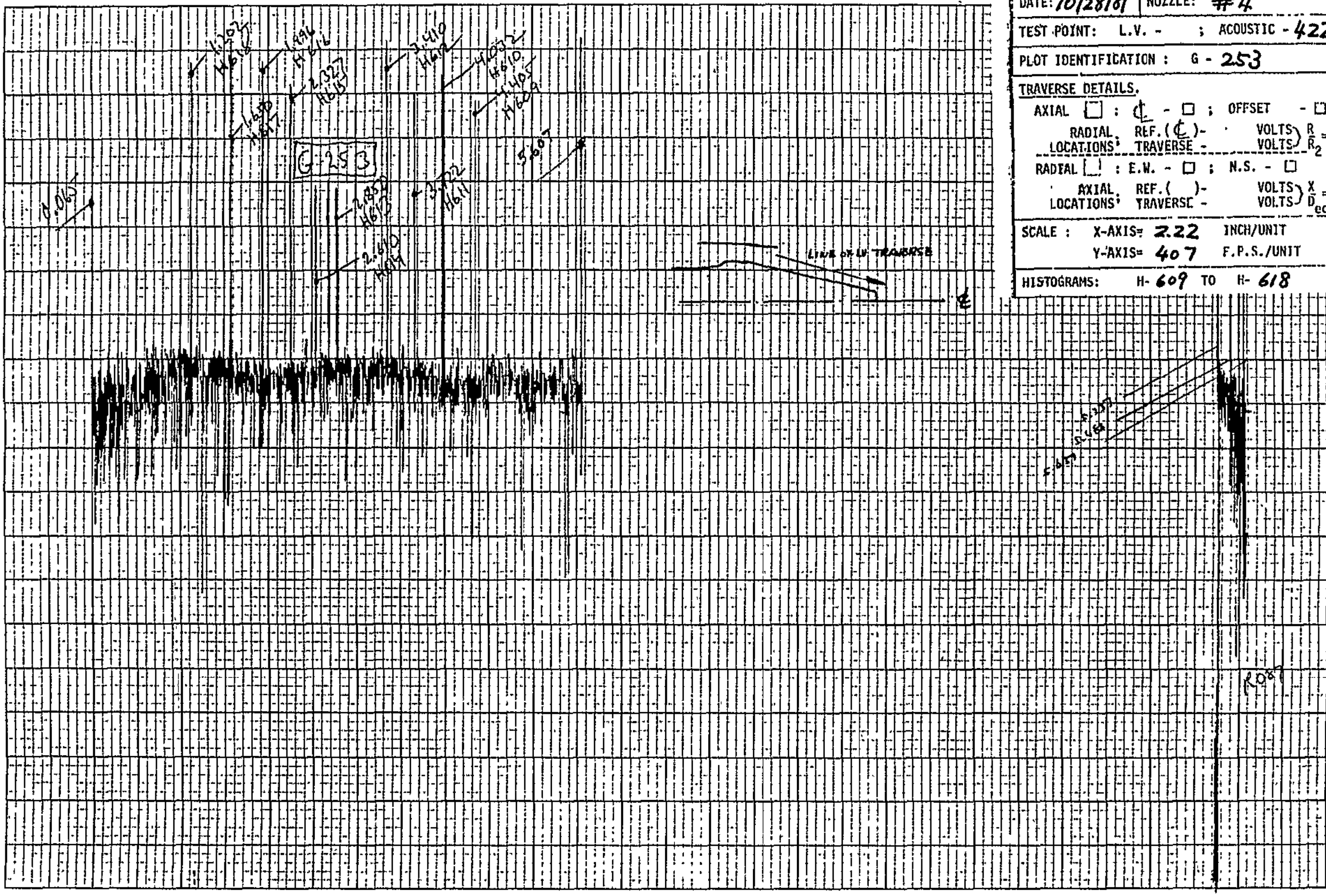
RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS / VOLTS) $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS / VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- 609 TO H- 618



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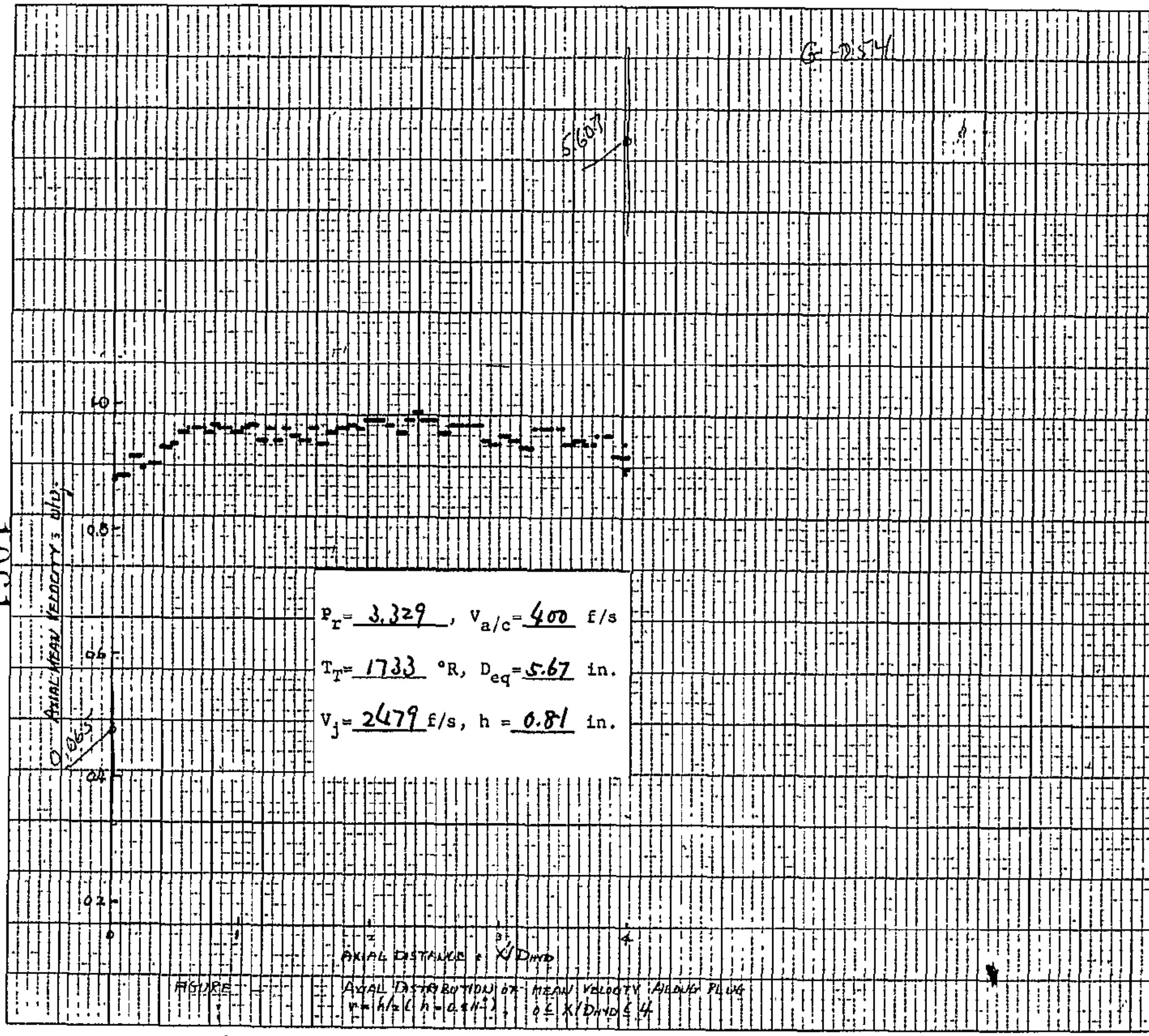


DATE: 10/28/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 422	
PLOT IDENTIFICATION : G - 254	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

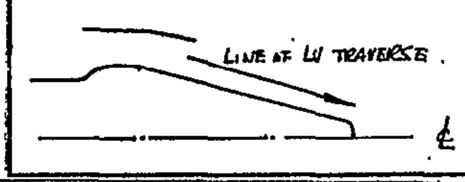
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-



P_r = 3.329, $V_{a/c}$ = 400 f/s

T_T = 1733 °R, D_{eq} = 5.67 in.

V_j = 2479 f/s, h = 0.81 in.

FIGURE AXIAL DISTRIBUTION OF MEAN VELOCITY ALONG PLUG

r = h/2 (h - 0.5H), 0 ≤ X/D_HYD ≤ 4

1901

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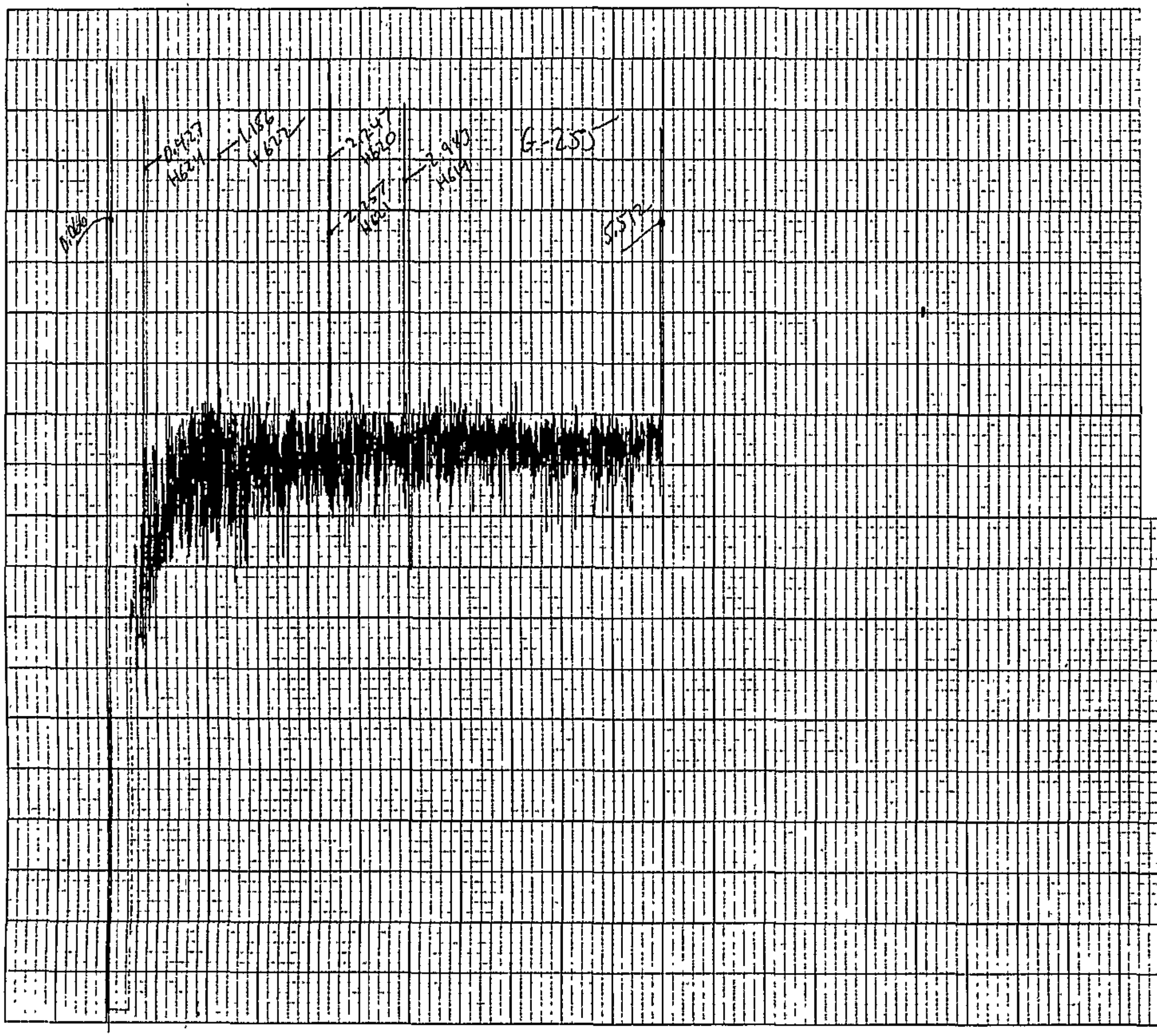


DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 255

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

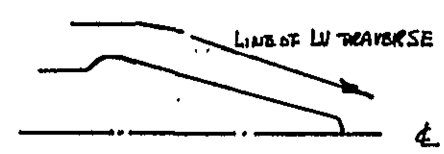
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H-619 TO H-624



1062

DATE: 10/28/81 | NOZZLE: # 4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 256

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

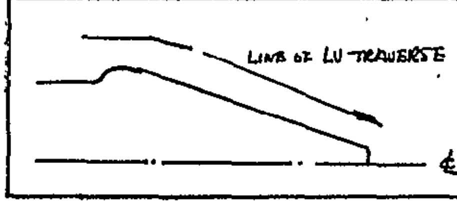
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

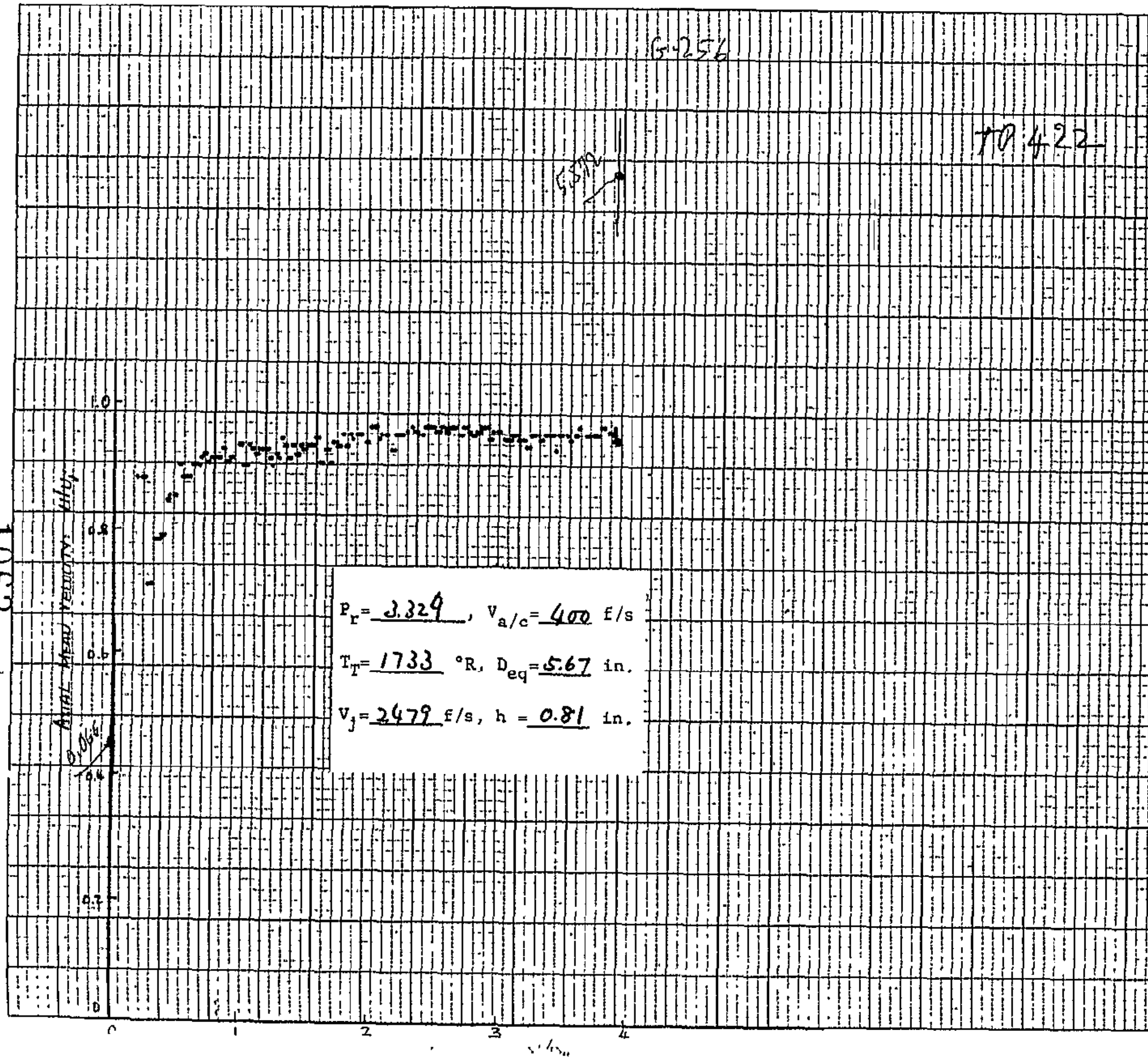
AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-





1063

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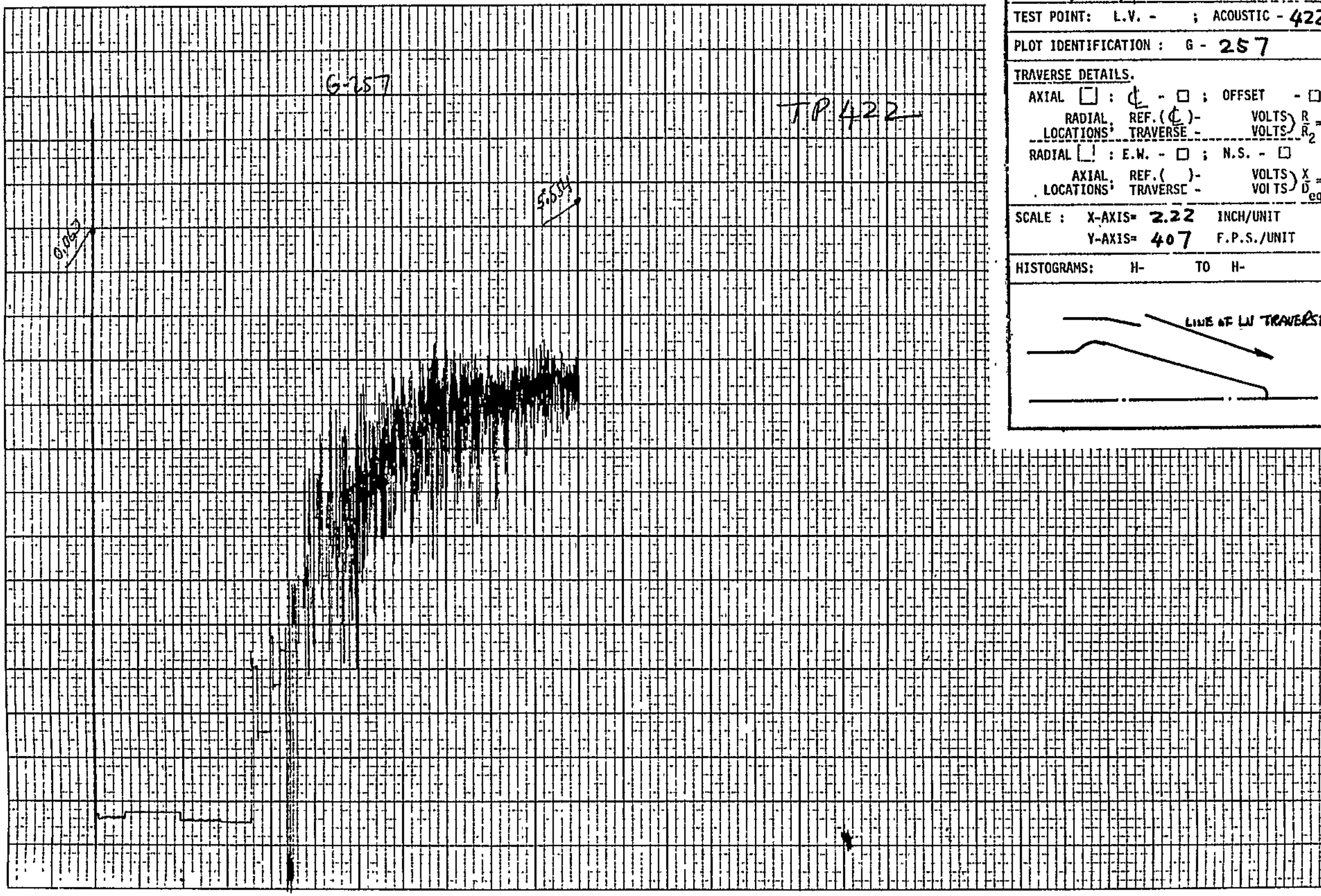


DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 257

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

1064

DATE: 10/28/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 422	
PLOT IDENTIFICATION : G - 258	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

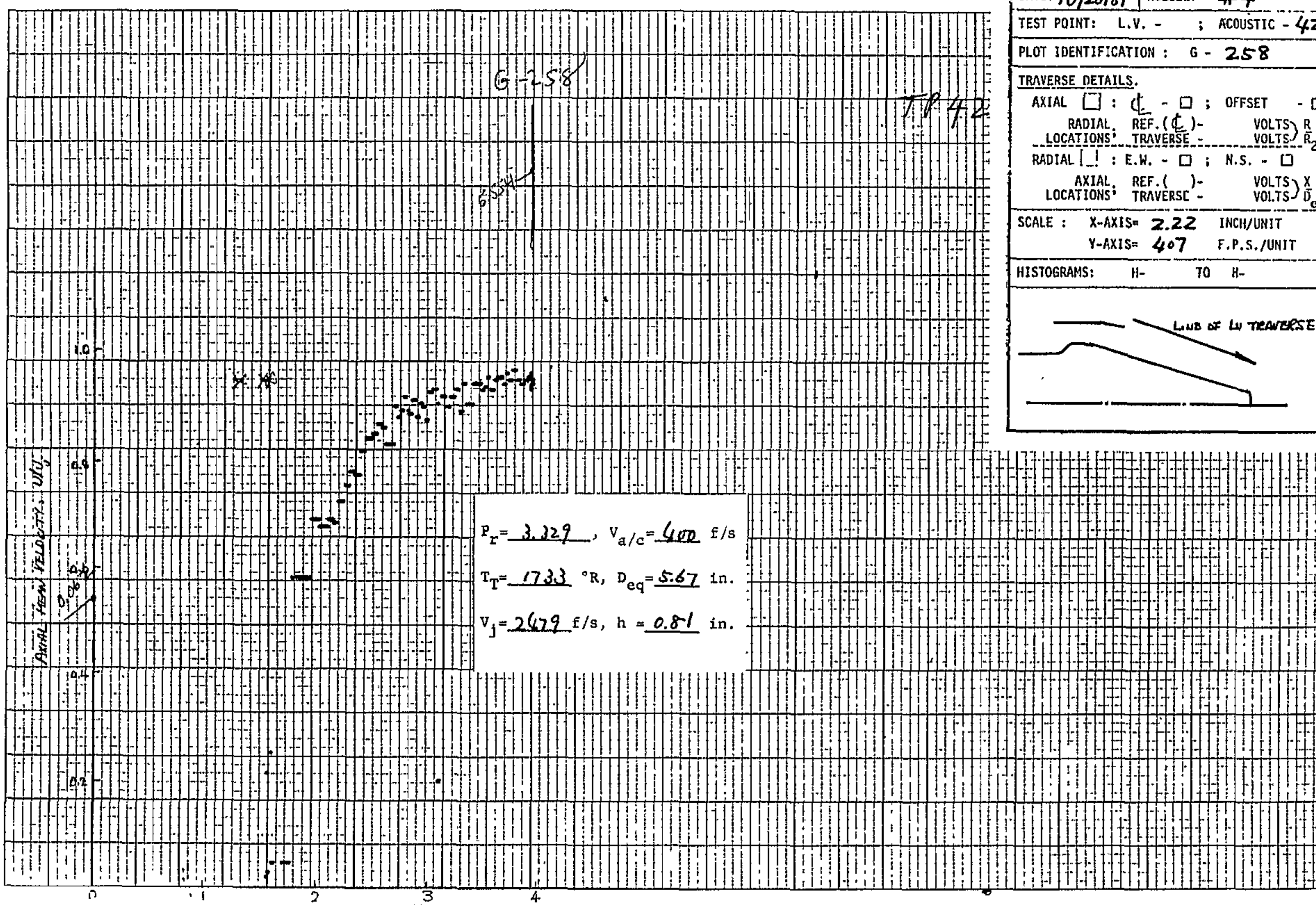
SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

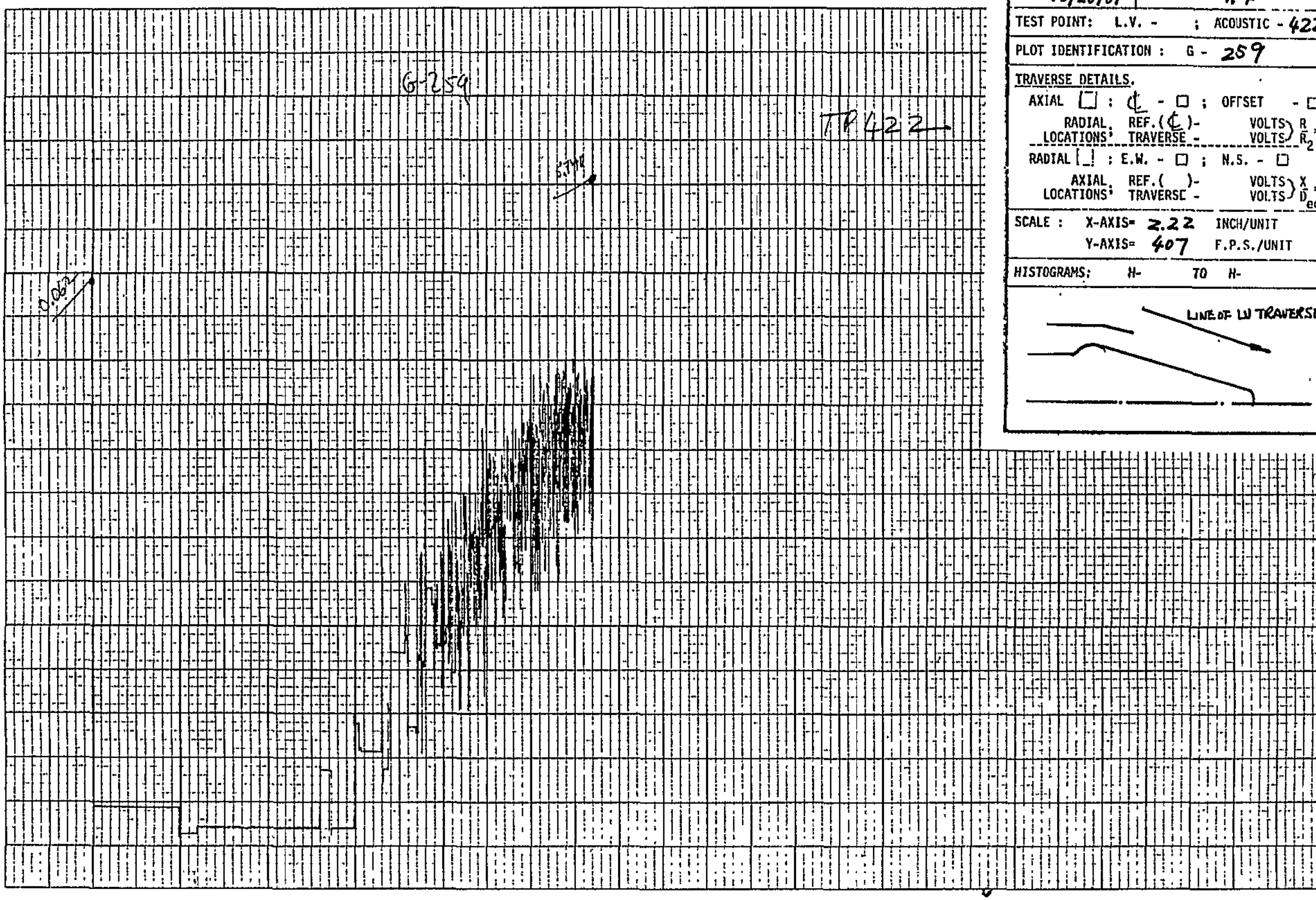
℄



P_r= 3.329 , $V_{a/c}$= 400 f/s

T_T= 1733 °R, D_{eq}= 5.67 in.

V_j= 2679 f/s, h = 0.81 in.



DATE: 10/28/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 259

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ ; E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄

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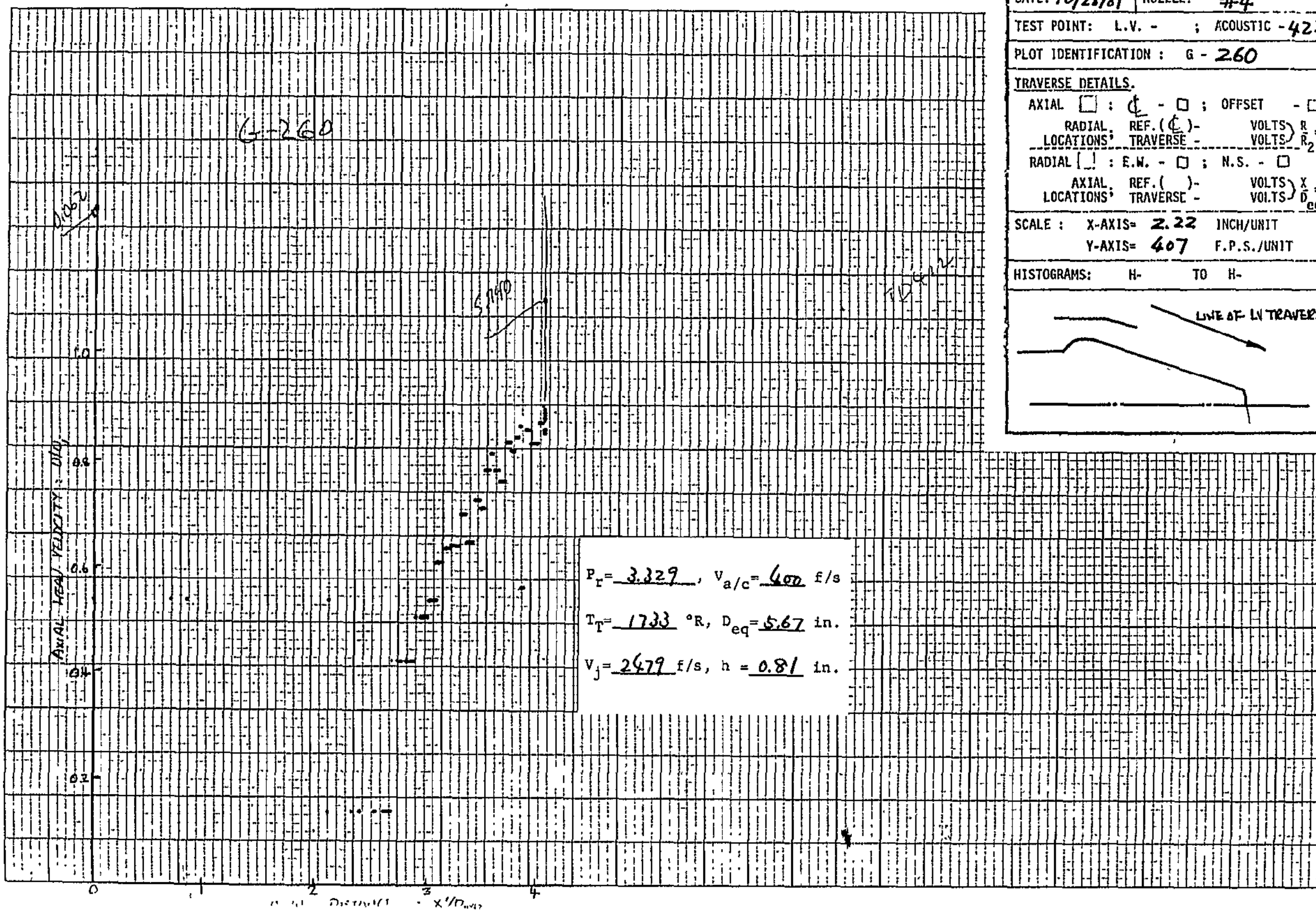


DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 260

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-

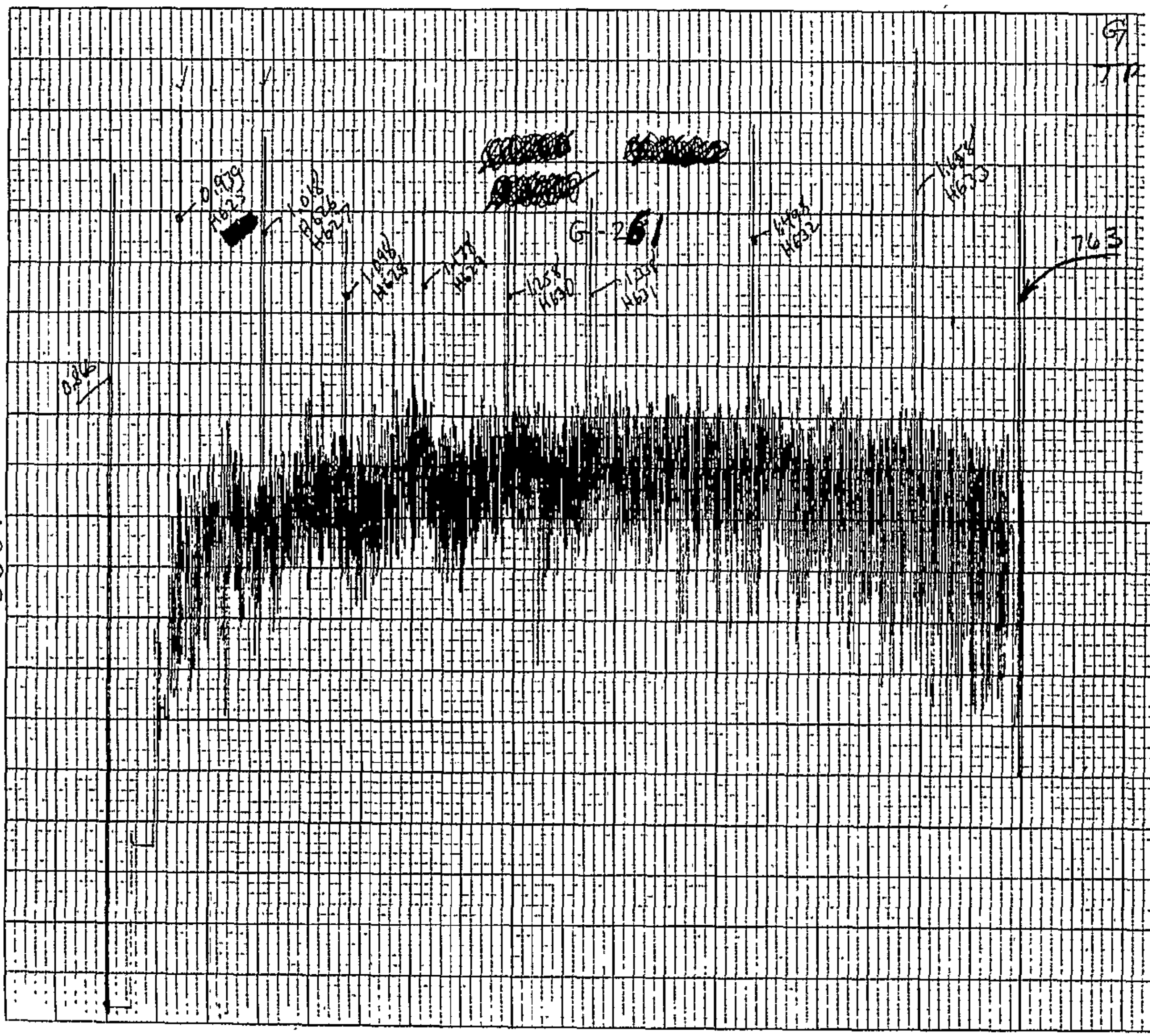
LINE OF LV TRAVERSE

℄

P_r= 3.329 , $V_{a/c}$= 400 f/s

T_T= 1733 °R, D_{eq}= 5.67 in.

V_j= 2479 f/s, h = 0.81 in.



DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 261

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

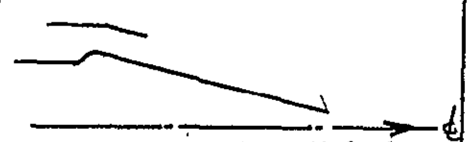
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- 625 TO H- 633



DATE: 10/28/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 262

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $R/R_2 \approx 0$

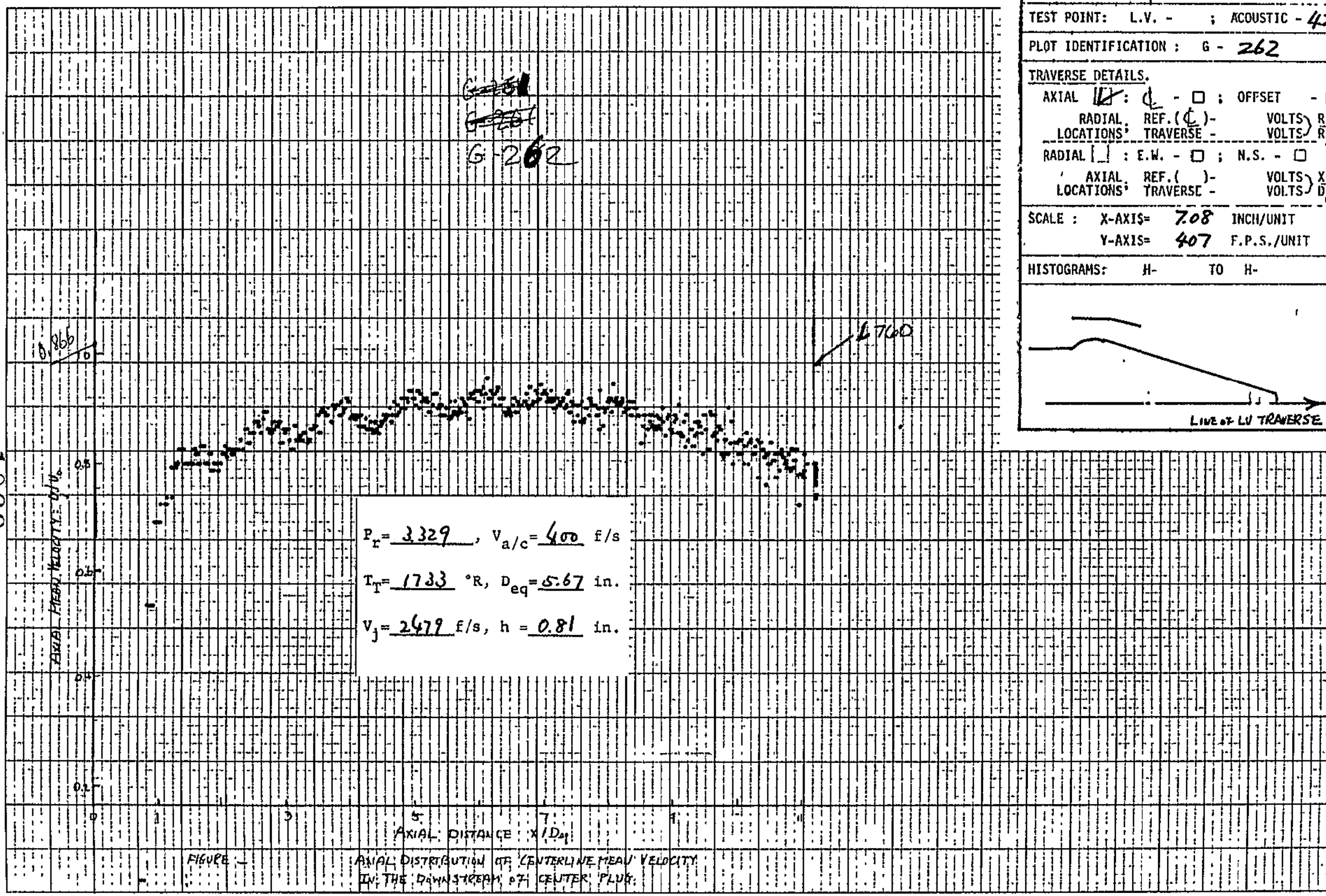
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS X/D_{eq} =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- TO H-



P_r = 3.329 , $V_{a/c}$ = 400 f/s

T_T = 1733 °R, D_{eq} = 5.67 in.

V_j = 2479 f/s, h = 0.81 in.

FIGURE — AXIAL DISTRIBUTION OF CENTERLINE MEAN VELOCITY IN THE DOWNSTREAM OF CENTER PLUG.

1069

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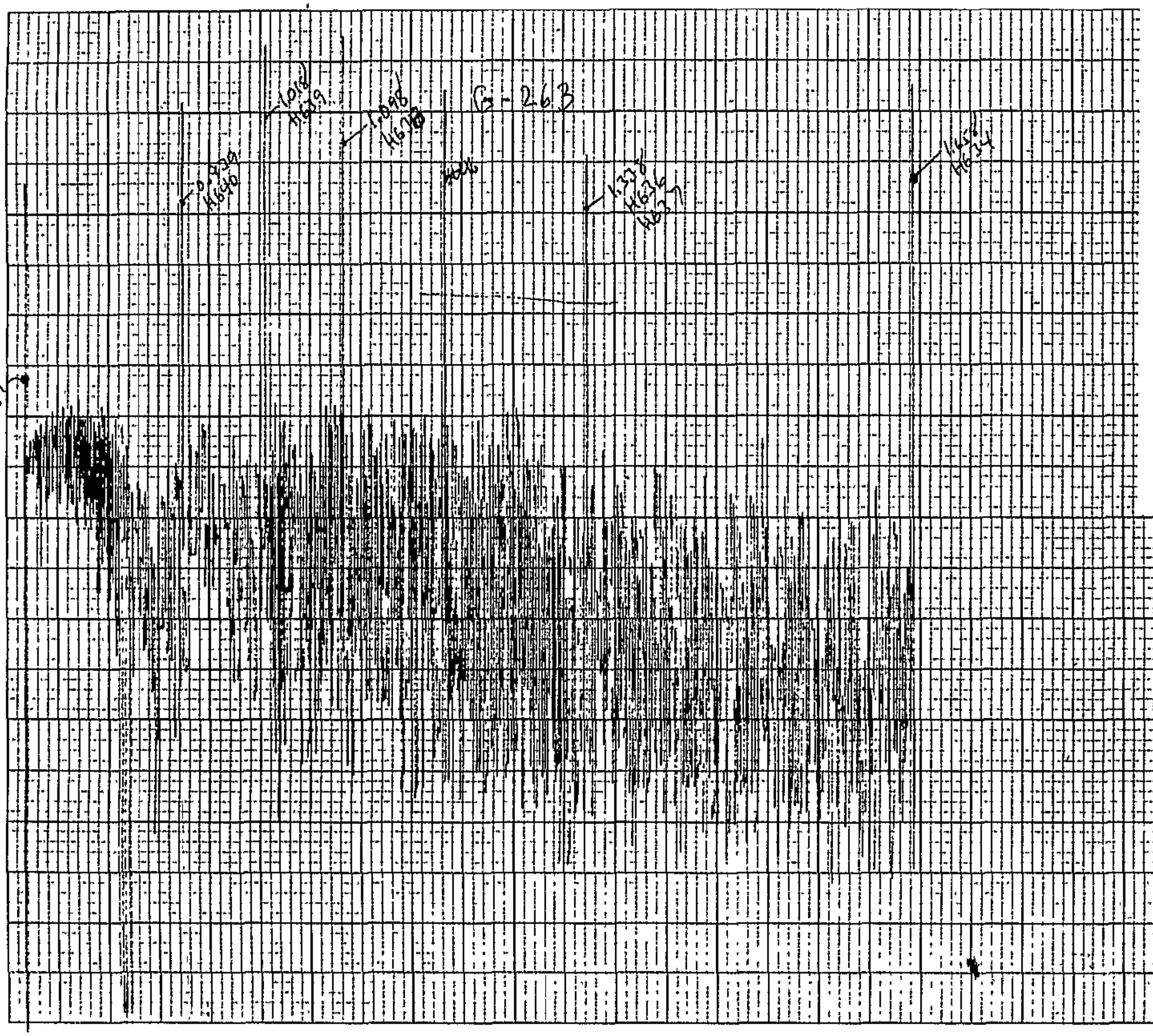
NO XY 1101

1070



DATE: 10/28/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 422	
PLOT IDENTIFICATION : G - 263	

TRAVERSE DETAILS.

AXIAL [✓] : ℄ - ☐ ; OFFSET - ☐

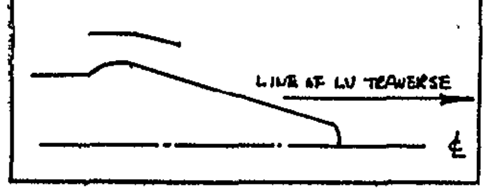
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2} = 1$

RADIAL [ ] : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H-634 TO H-640



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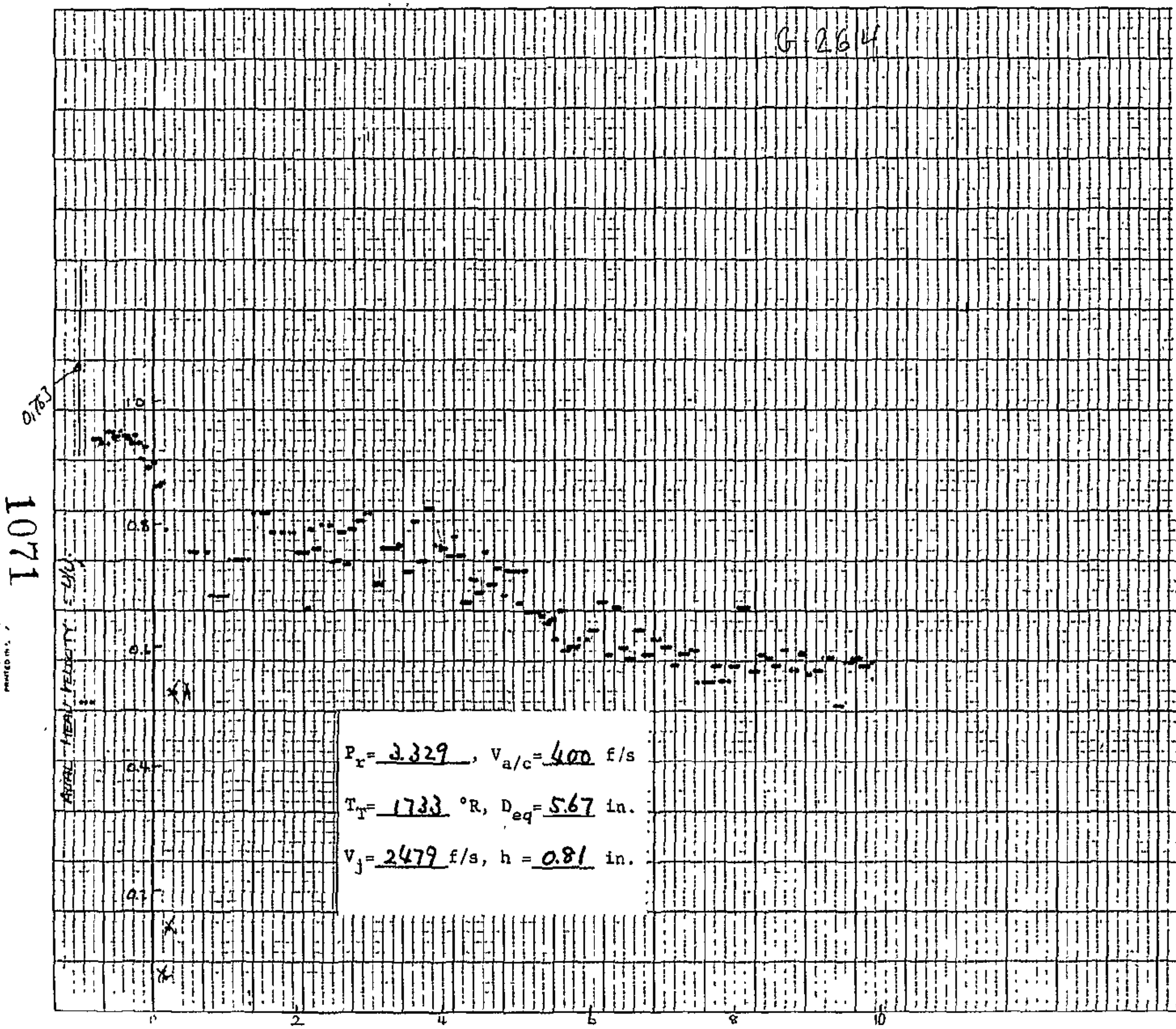
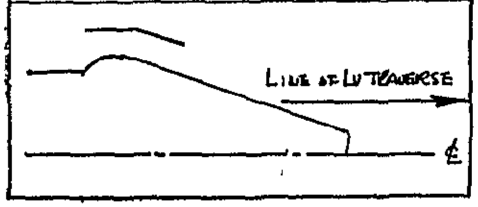


DATE: 10/28/81 NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 422
PLOT IDENTIFICATION : G - 264
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT
HISTOGRAMS: H- TO H-



P_r= 3.329 , $V_{a/c}$= 400 f/s
T_T= 1733 °R, D_{eq}= 5.67 in.
V_j= 2479 f/s, h = 0.81 in.

1071

DATE: 10/28/81	NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 265

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}} \simeq 0$

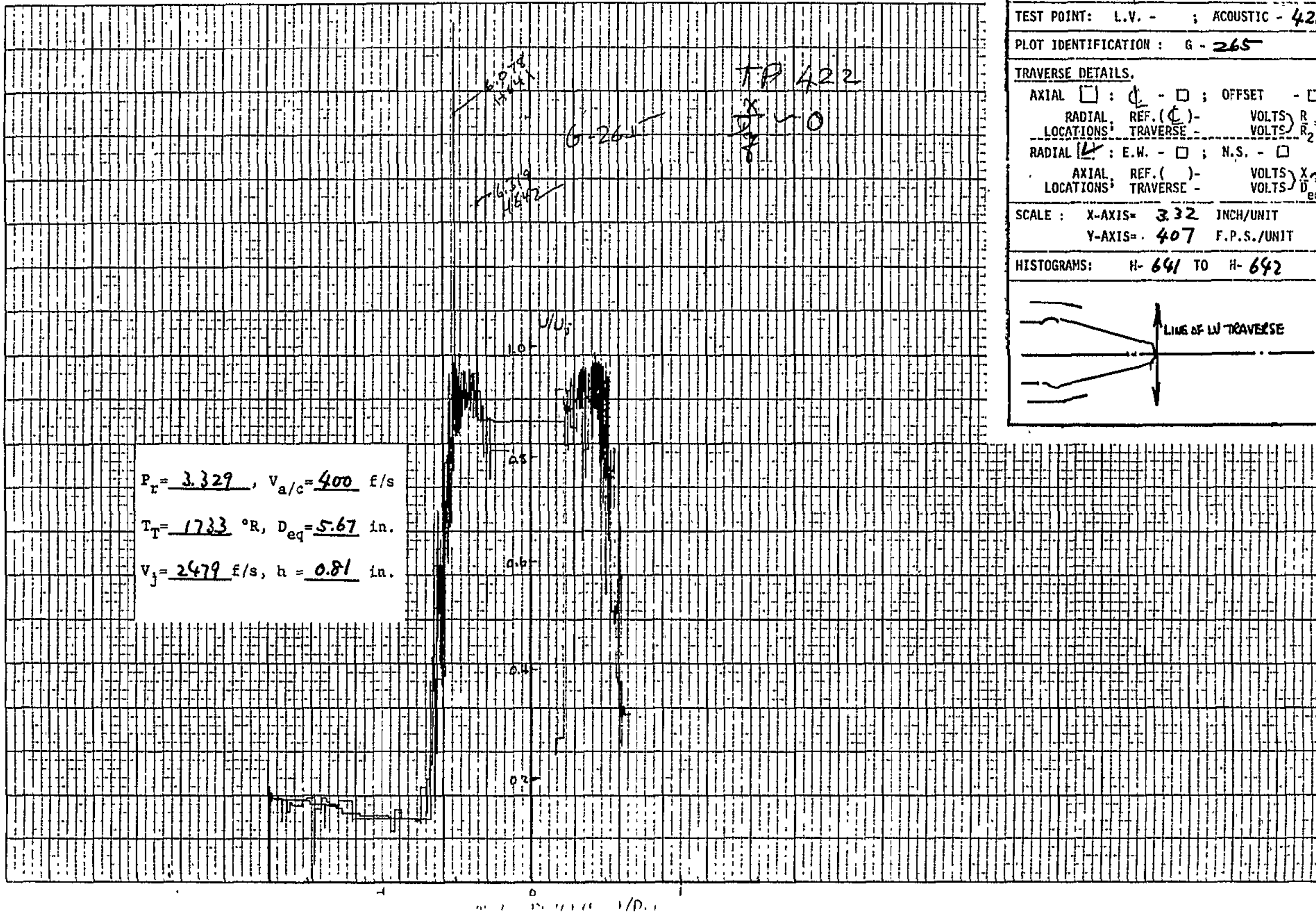
SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H- 641 TO H- 642

LINE OF LV TRAVERSE

℄



1072

G-6

DATE: 10/28/81 | NOZZLE: #4

TEST POINT: L.V. - ; ACOUSTIC - 422

PLOT IDENTIFICATION : G - 266

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

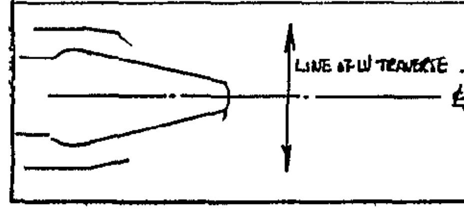
RADIAL ☑ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ = 4

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 407 F.P.S./UNIT

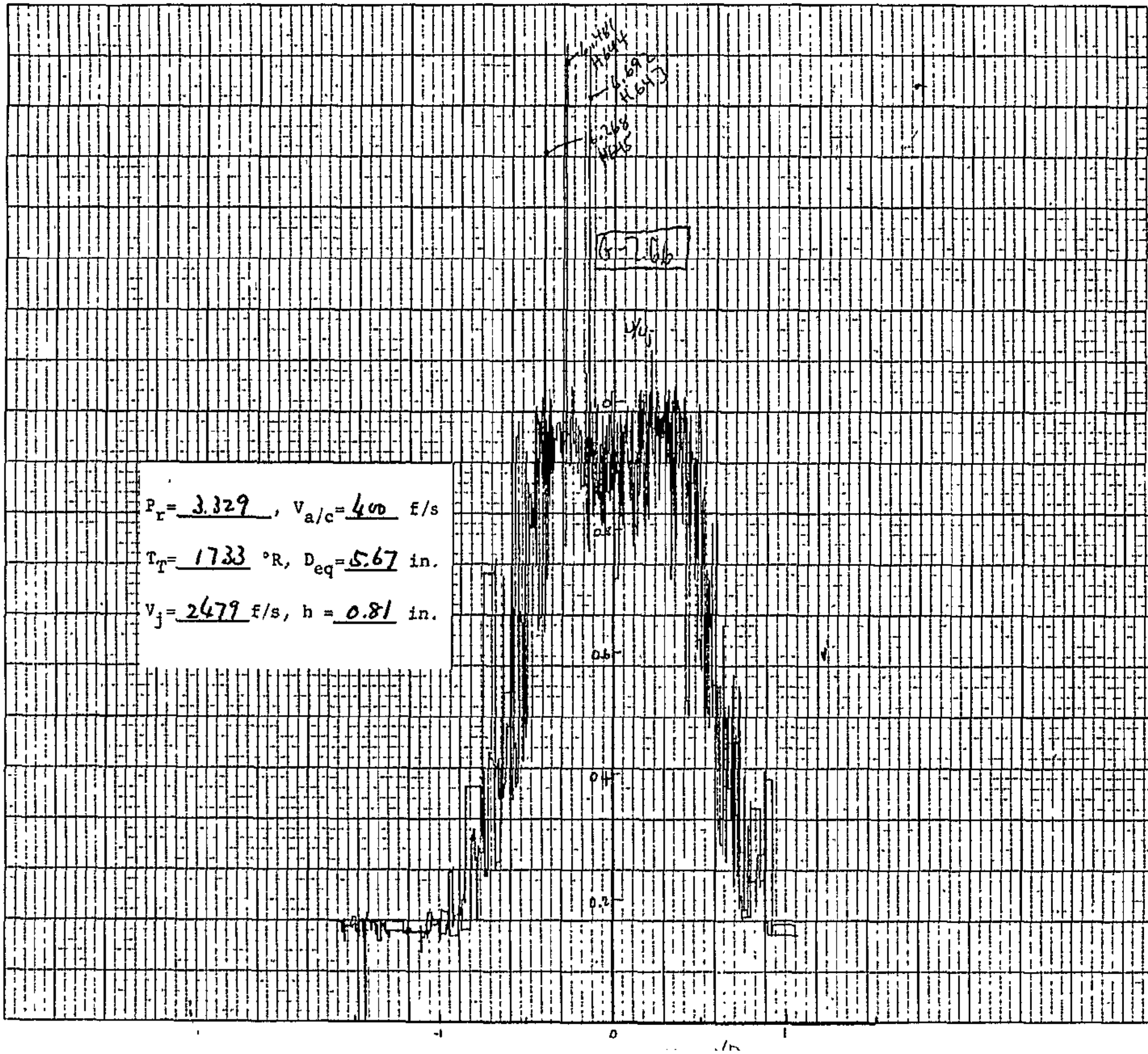
HISTOGRAMS: H- 643 TO H- 645



P_r = 3.329 , $V_{a/c}$ = 400 f/s

T_T = 1733 °R, D_{eq} = 5.67 in.

V_j = 2479 f/s, h = 0.81 in.



DATE: 10/28/81	NOZZLE: #4
TEST POINT: L.V. - ; ACOUSTIC - 422	
PLOT IDENTIFICATION : G - 267	

TRAVERSE DETAILS.

AXIAL □ : ℄ - □ ; OFFSET - □

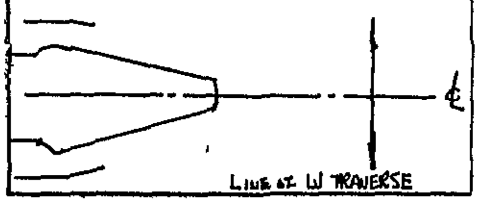
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS R/R_2 =

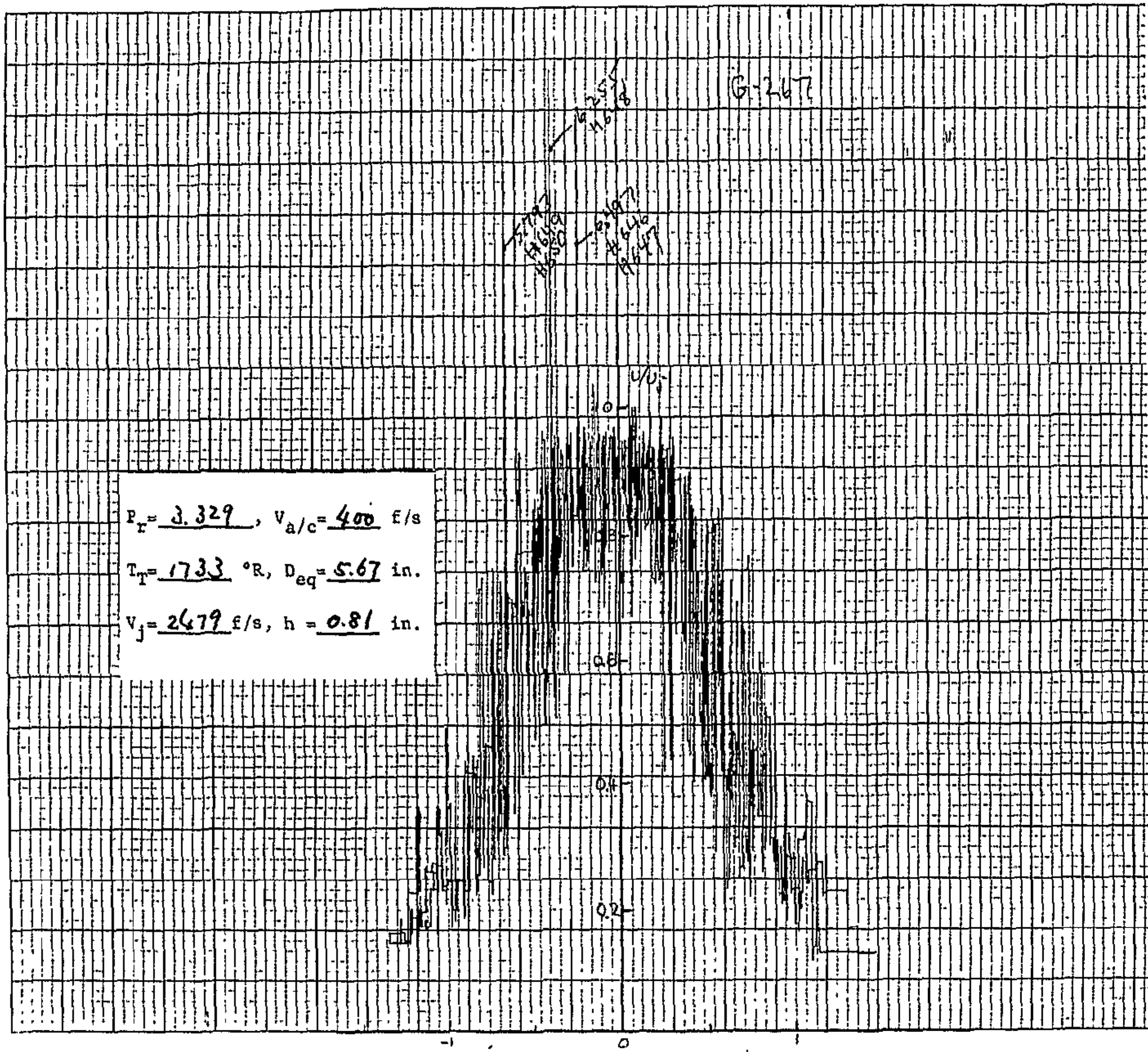
RADIAL ☑ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $X/D_{eq} \approx 8$

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 407 F.P.S./UNIT

HISTOGRAMS: H-646 TO H-650





P_r = 3.329, $V_{a/c}$ = 400 f/s

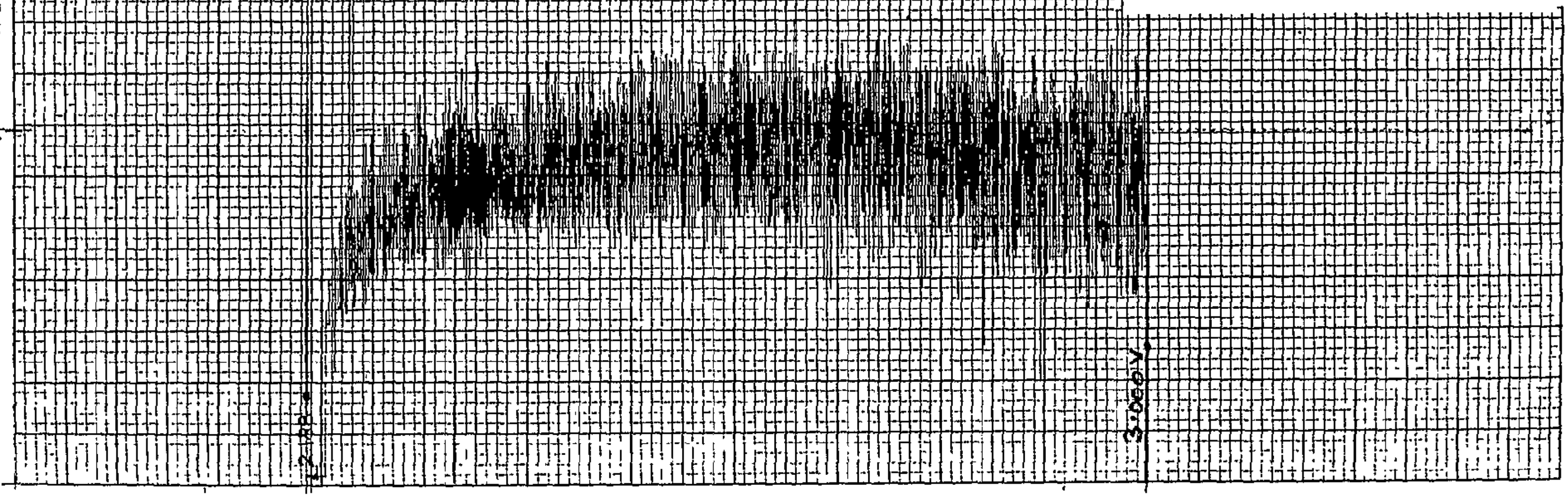
T_T = 1733 °R, D_{eq} = 5.67 in.

V_j = 2479 f/s, h = 0.81 in.

1074

5.2.7 Laser Velocimeter Data of Model 5

1077



DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 596	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

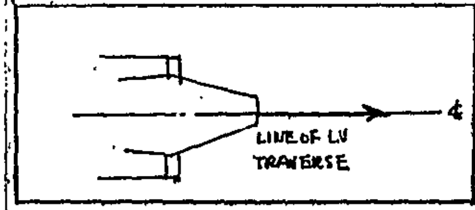
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.14 INCH/UNIT

Y-AXIS= 395 F.P.S./UNIT

HISTOGRAMS: H- TO H-



INCORRECT X-SCALE

DATE: 4/30/82	NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G-597

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

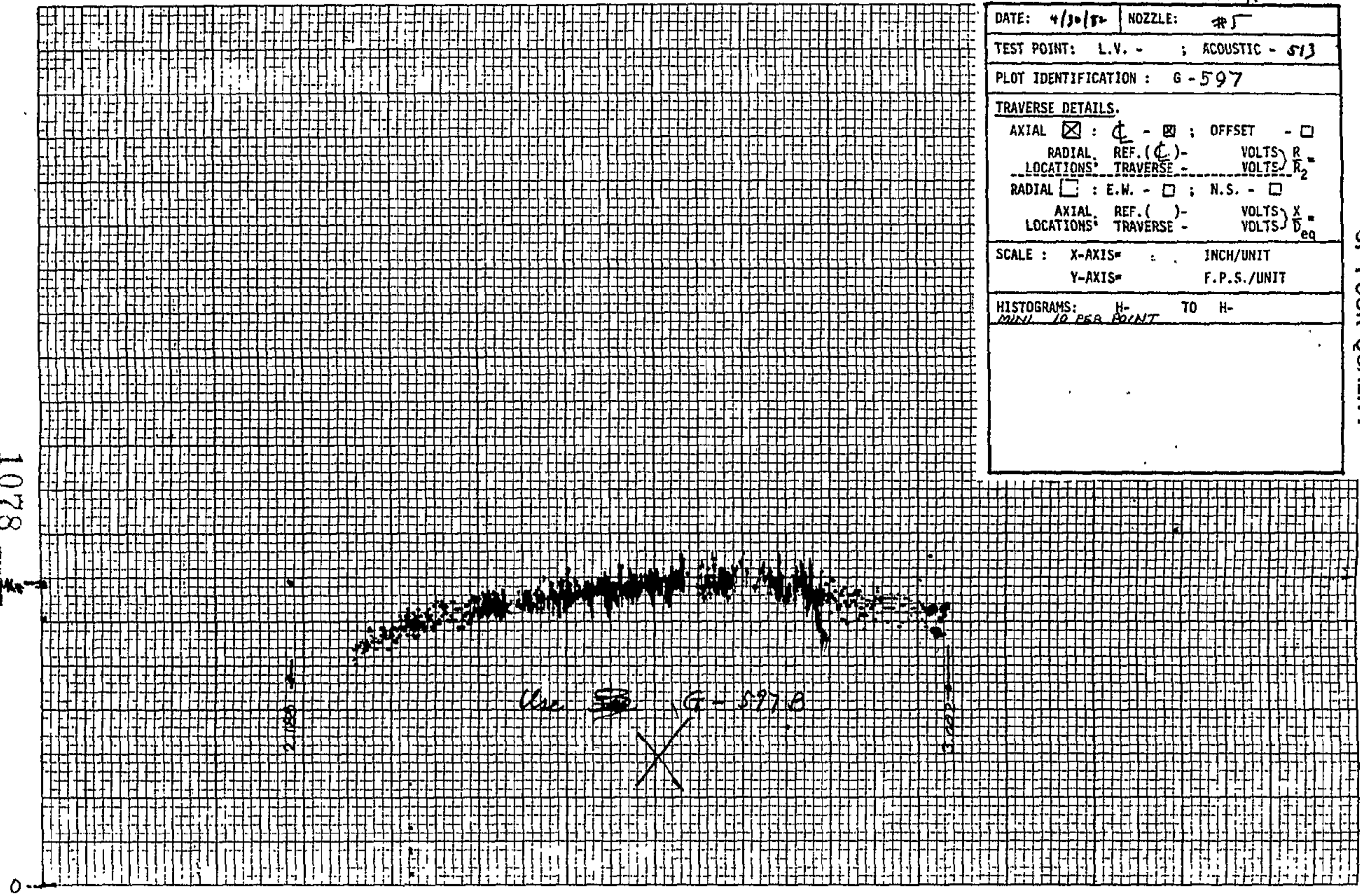
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= INCH/UNIT

Y-AXIS= F.P.S./UNIT

HISTOGRAMS: H- TO H-

MINI. 10 PER POINT



1079

DATE: 4/30/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G-597b

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 0

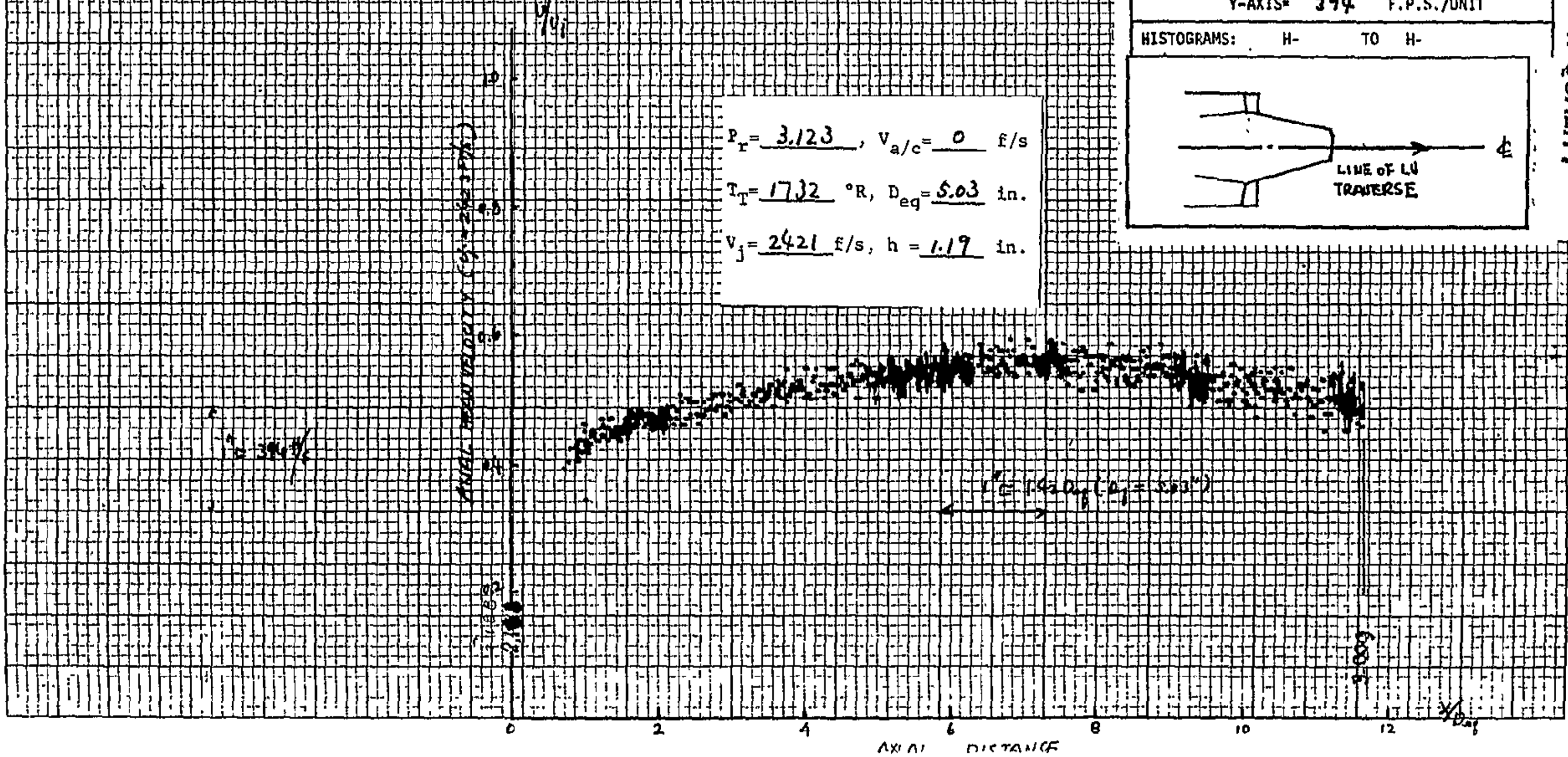
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.14 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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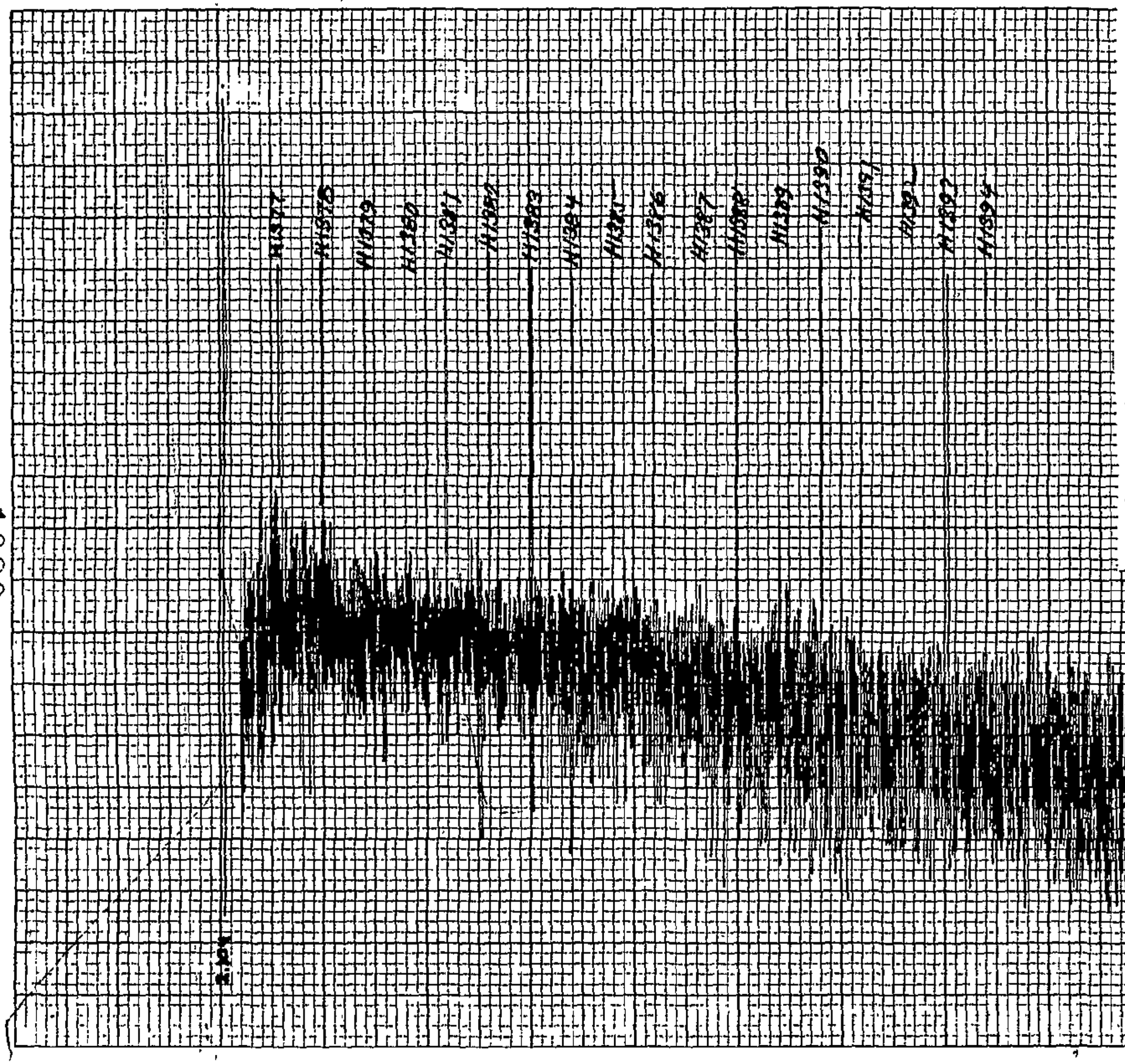


DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 598	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

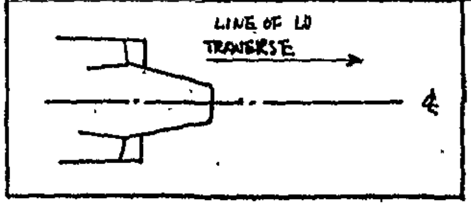
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.14 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1377 TO H-1394



1080

NO. XY 1101

INCORRECT.

DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC -513

PLOT IDENTIFICATION : G -599

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

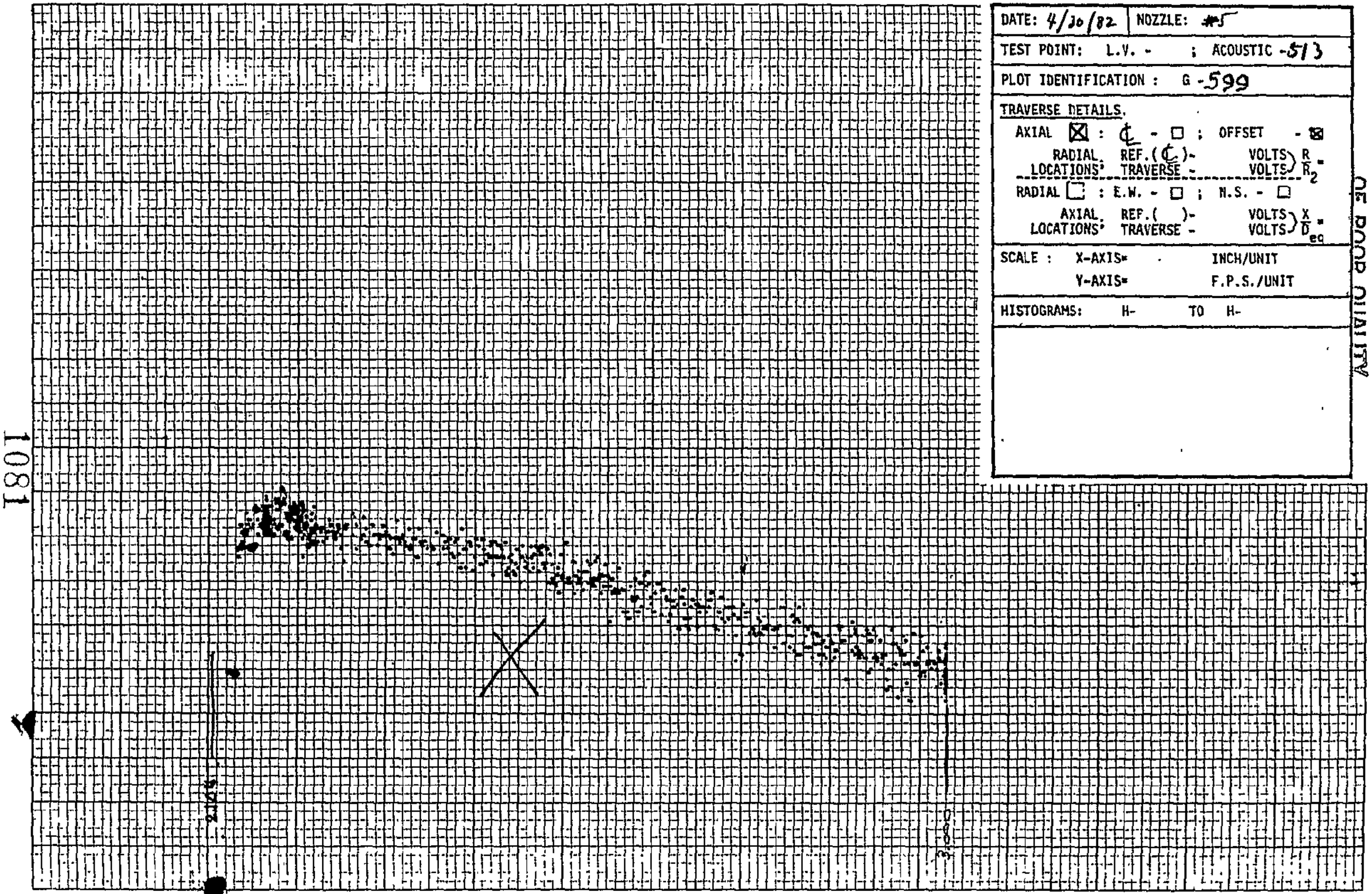
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= INCH/UNIT

Y-AXIS= F.P.S./UNIT

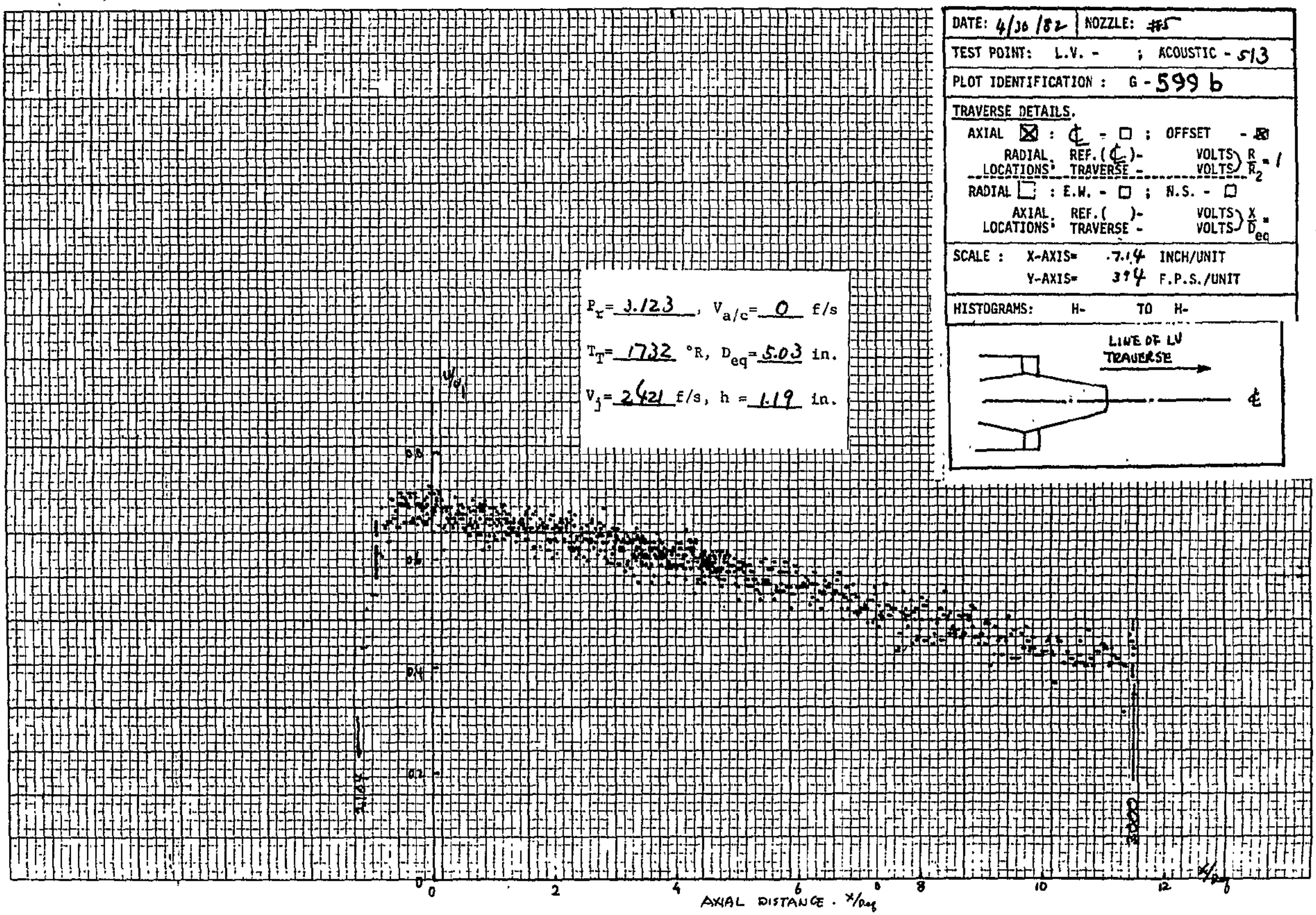
HISTOGRAMS: H- TO H-

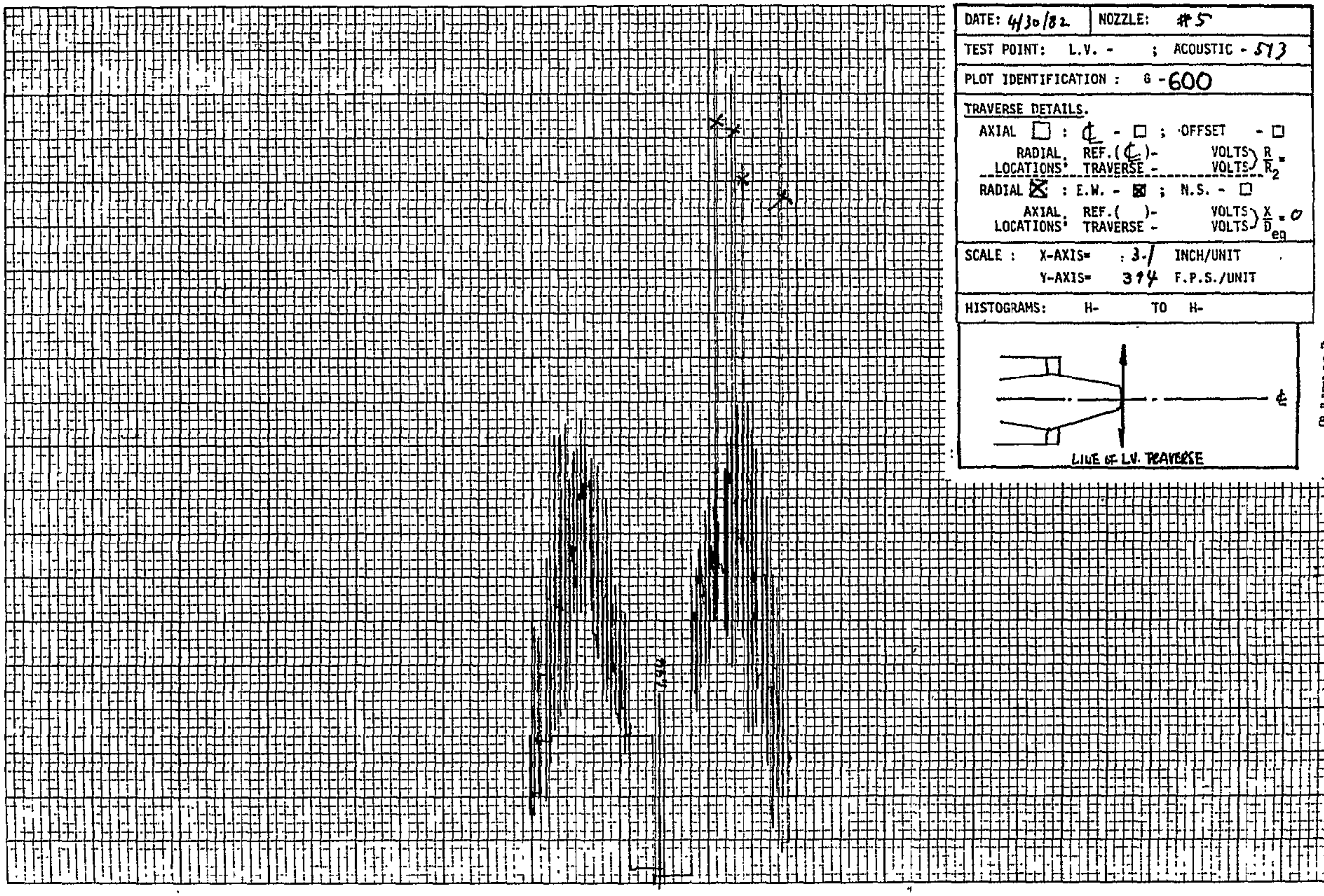


INCORRECT X SCALE: USE G-599b. G-598 is OK.

1081

1082


DATE: 4/30/82 NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513
PLOT IDENTIFICATION : G - 599 b
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R2 = 1
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 7.14 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.123, Va/c= 0 f/s
TT= 1732 °R, Deq= 5.03 in.
Vj= 2421 f/s, h = 1.19 in.
V/Vj
0.8
0.6
0.4
0.2
0
2
4
6
8
10
12
AXIAL DISTANCE . X/Deq



DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 573	
PLOT IDENTIFICATION : G-600	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS= 3.1 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

℄

LINE OF L.V. TRAVERSE

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1083

DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G-601

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS= 2.1 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

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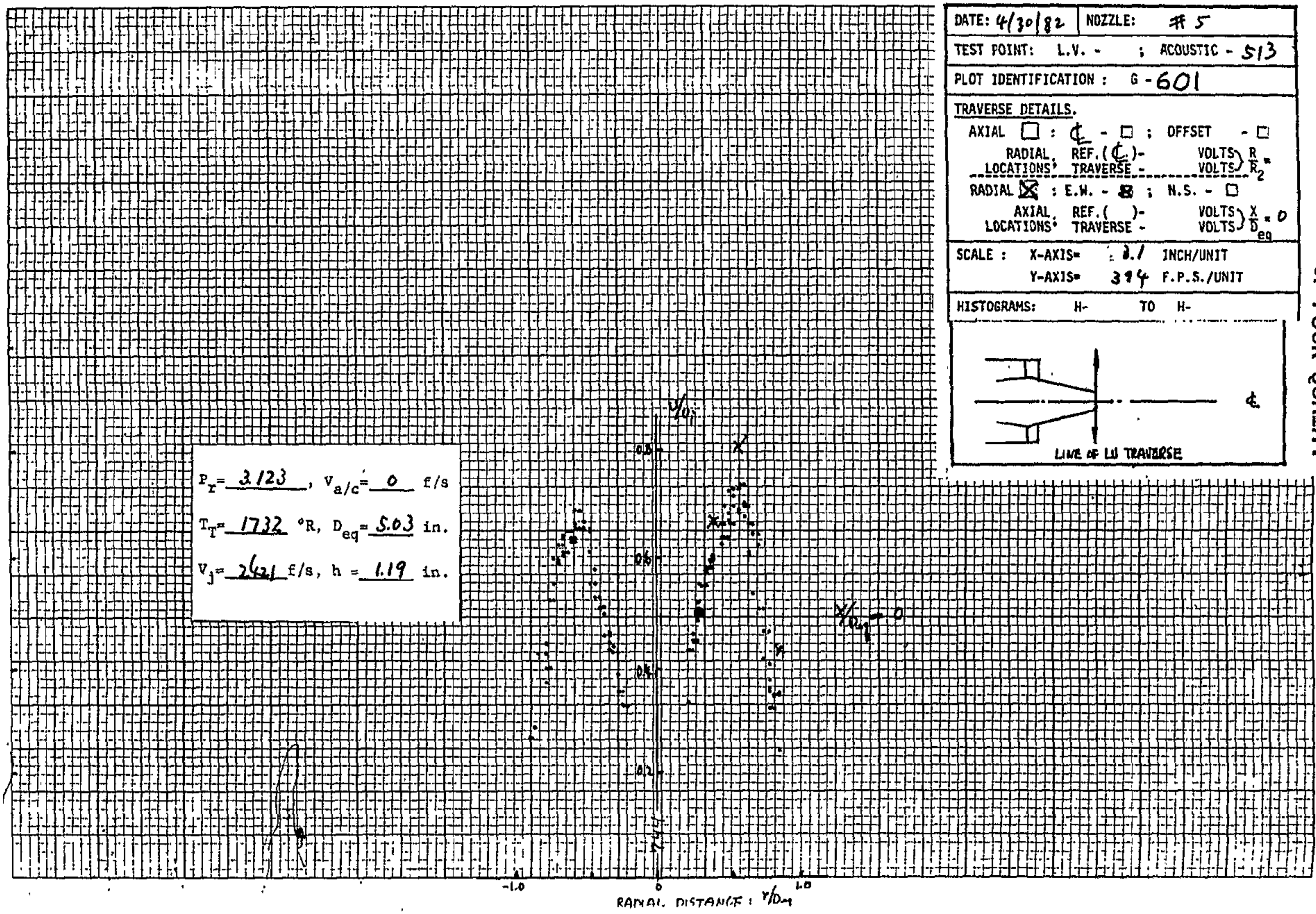
P_r = 3.123, $V_{a/c}$ = 0 f/s

T_T = 1732 °R, D_{eq} = 5.03 in.

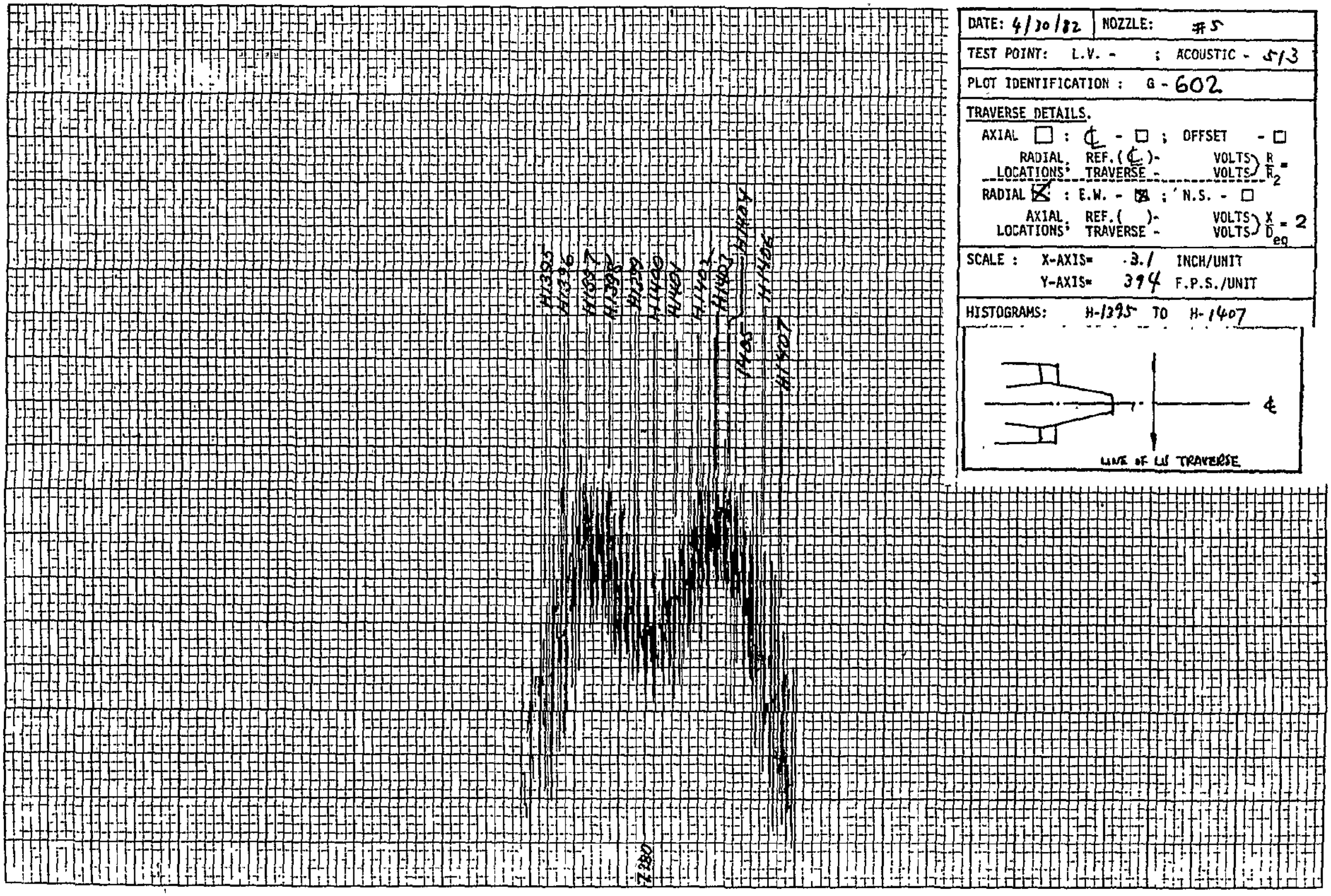
V_j = 2621 f/s, h = 1.19 in.



1084

1085

NO. XY 1101



DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 602	

TRADVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS* REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS* REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 2

SCALE : X-AXIS= .3.1 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1395 TO H-1407

℄

LINE OF LV TRAVERSE

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1086

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DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 603	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 2

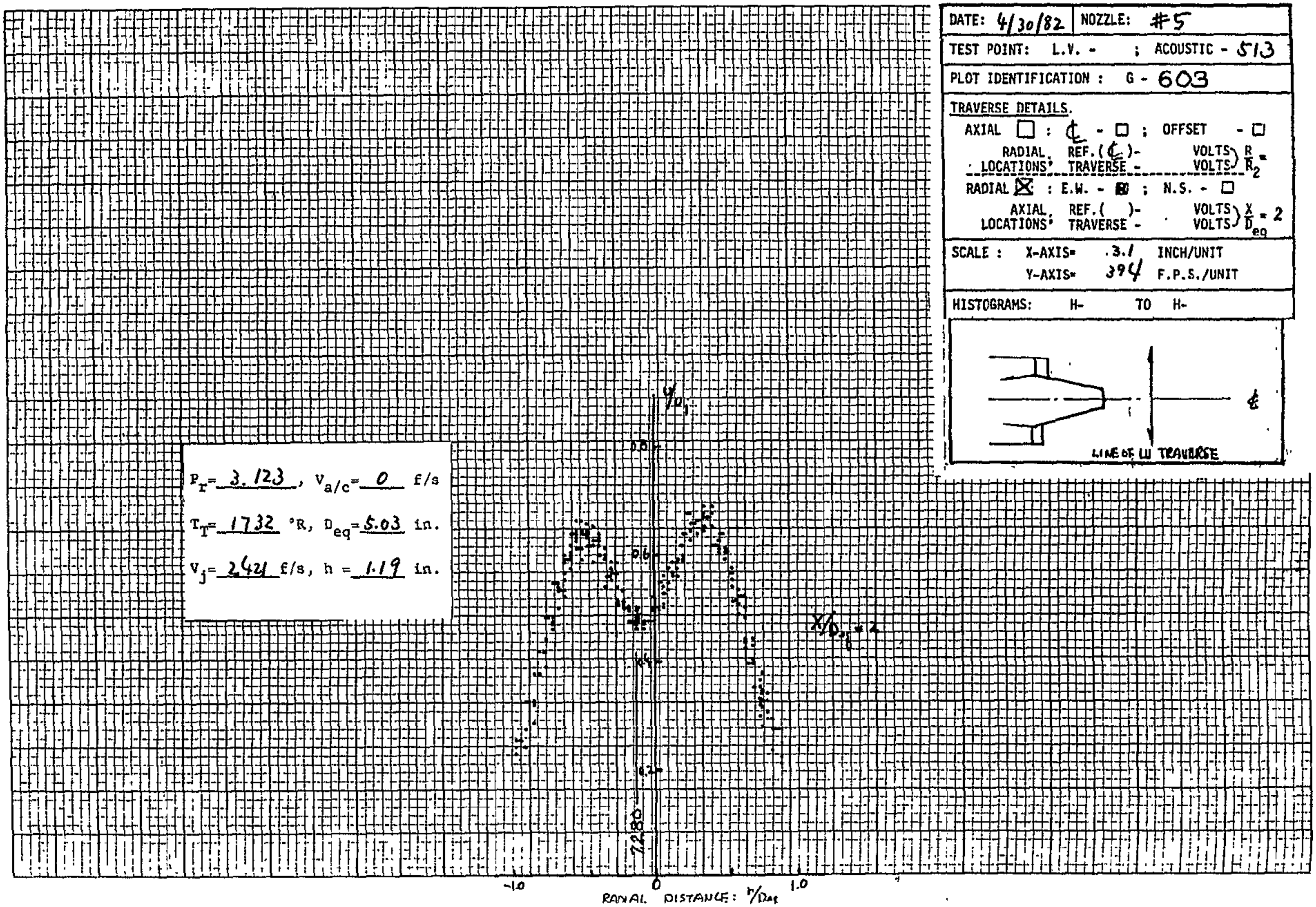
SCALE : X-AXIS= .3.1 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

P_r = 3.123, $V_{a/c}$ = 0 f/s

T_T = 1732 °R, D_{eq} = 5.03 in.

V_j = 2421 f/s, h = 1.19 in.



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DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G-604	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 6

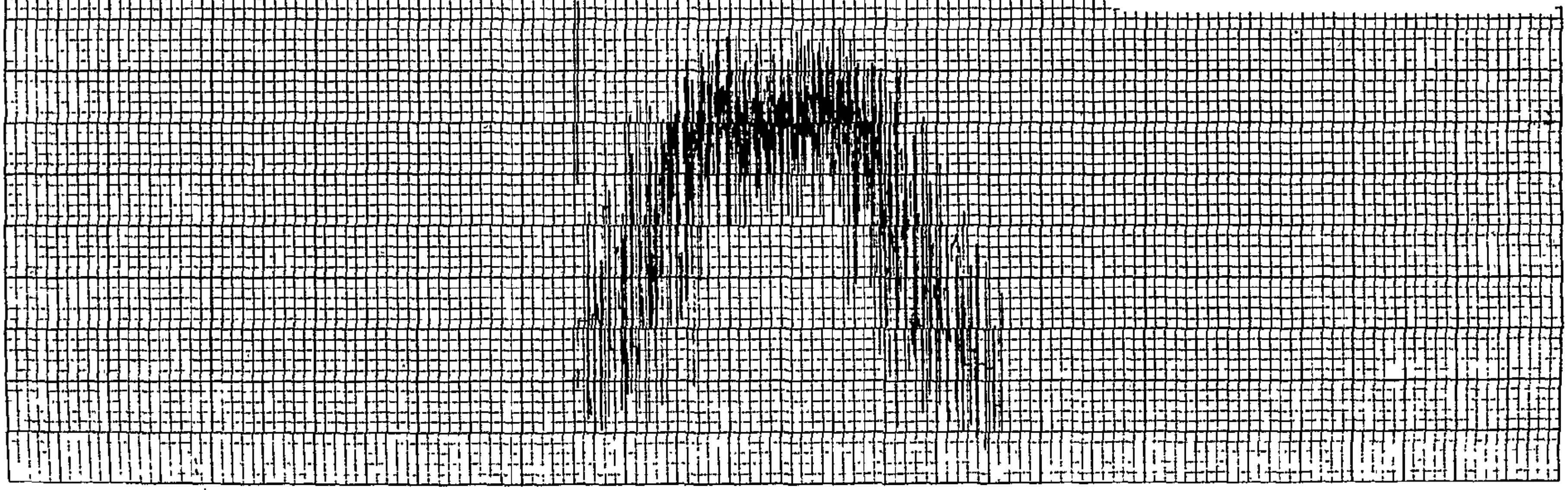
SCALE : X-AXIS= 3.1 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

℄

LINE OF LV TRAVERSE



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1087

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DATE: 4/30/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 605

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

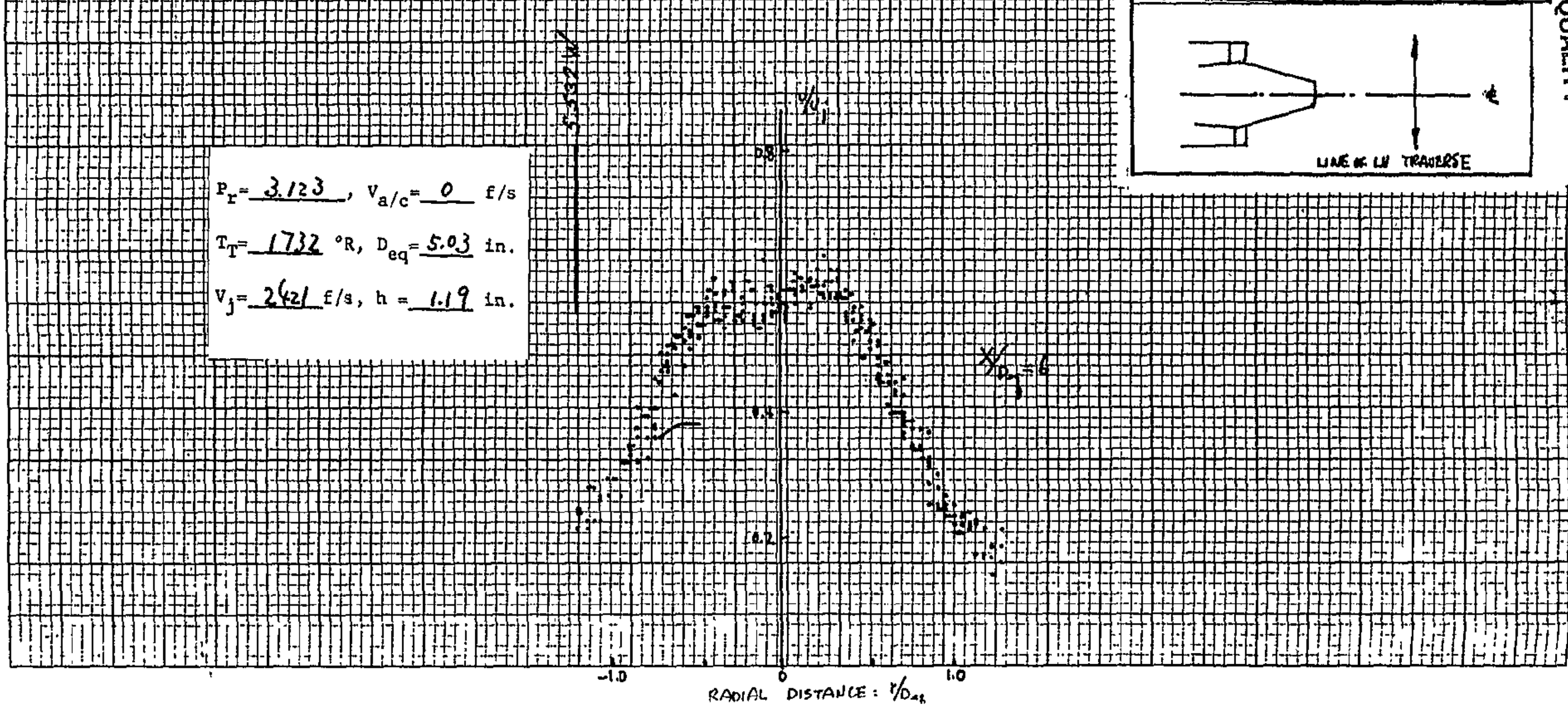
RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS VOLTS R/R_2 =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS VOLTS X/D_{eq} = 6

SCALE : X-AXIS= 3.1 INCH/UNIT
Y-AXIS= 314 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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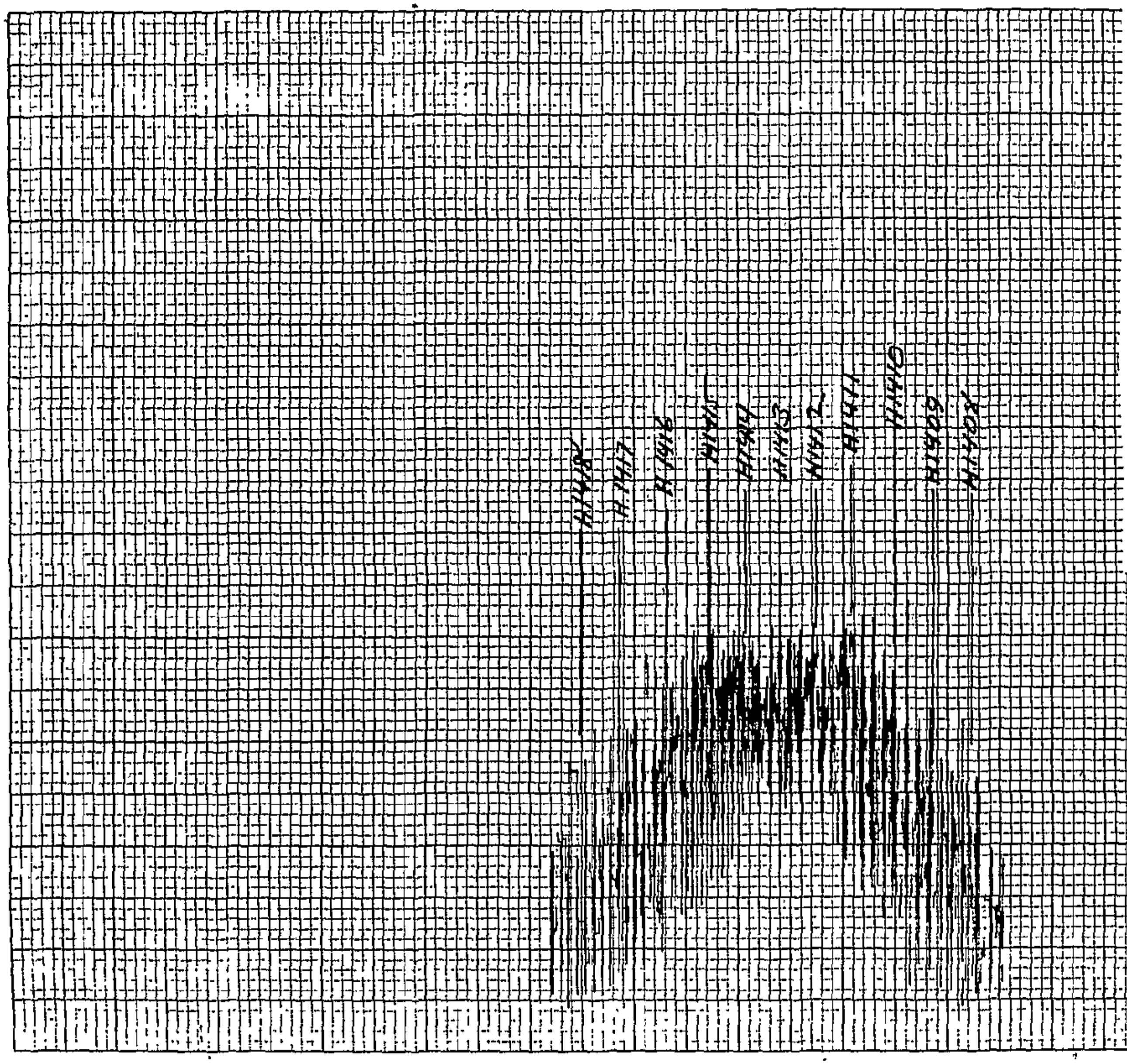
1088

NO. XY 1101



DATE: 4/20/82	NOZZLE: # 5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 606	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS* REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

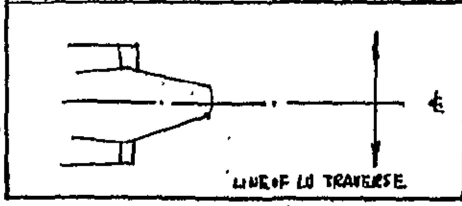
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS* REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 8

SCALE : X-AXIS= .3.1 INCH/UNIT

Y-AXIS= 374 F.P.S./UNIT

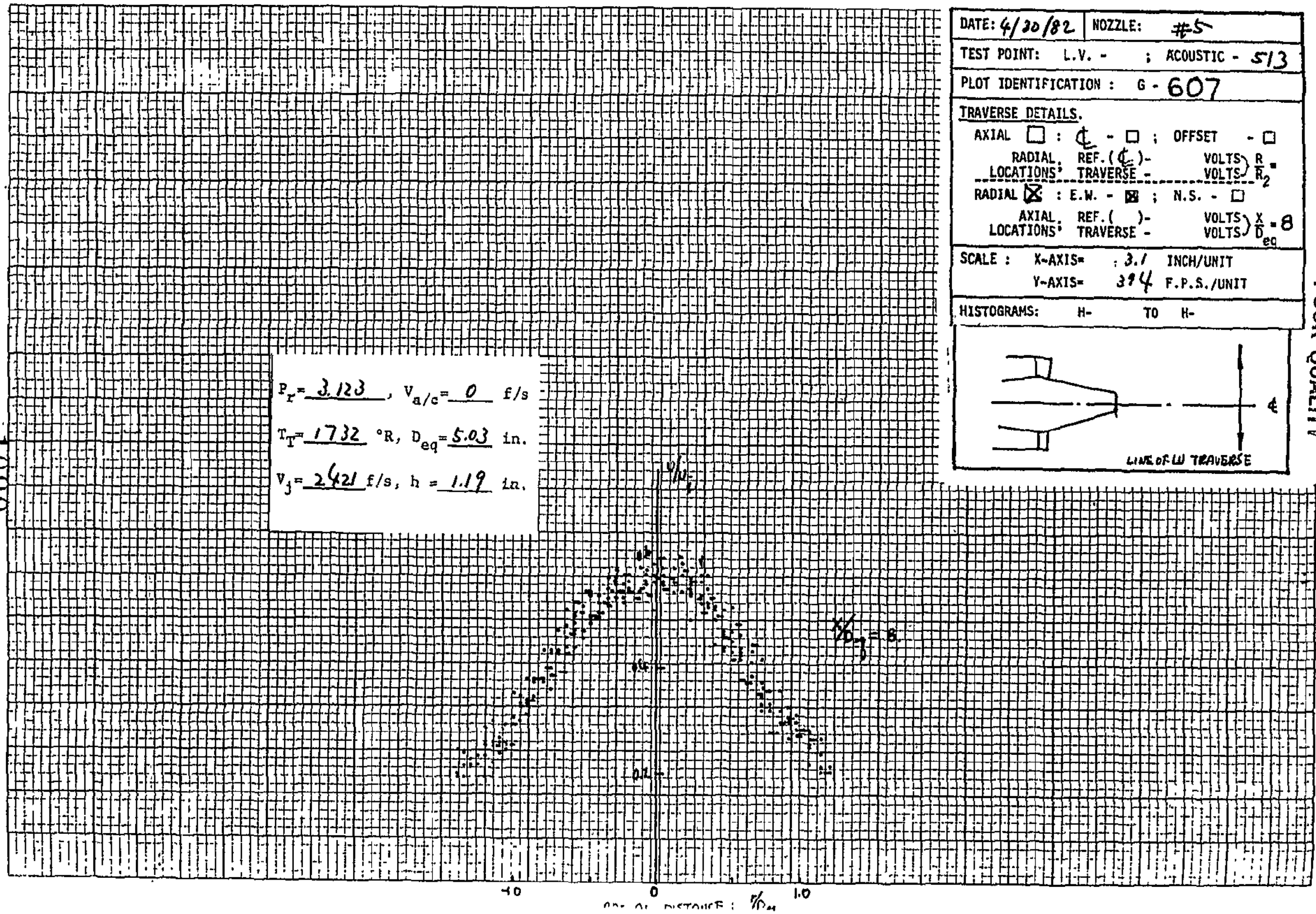
HISTOGRAMS: H-1408 TO H-1418



No XY 1101

1089

1090


DATE: 4/20/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513
PLOT IDENTIFICATION : G - 607
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄) - TRAVERSE -
VOLTS / VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( ) - TRAVERSE -
VOLTS / VOLTS X/Deq = 8
SCALE : X-AXIS= 3.1 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
LINE OF LV TRAVERSE
Pr = 3.123 , Va/c = 0 f/s
TT = 1732 °R, Deq = 5.03 in.
Vj = 2421 f/s, h = 1.19 in.
u/uj
x/Deq = 8
-1.0
0
1.0

DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 608	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS, REF. (℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

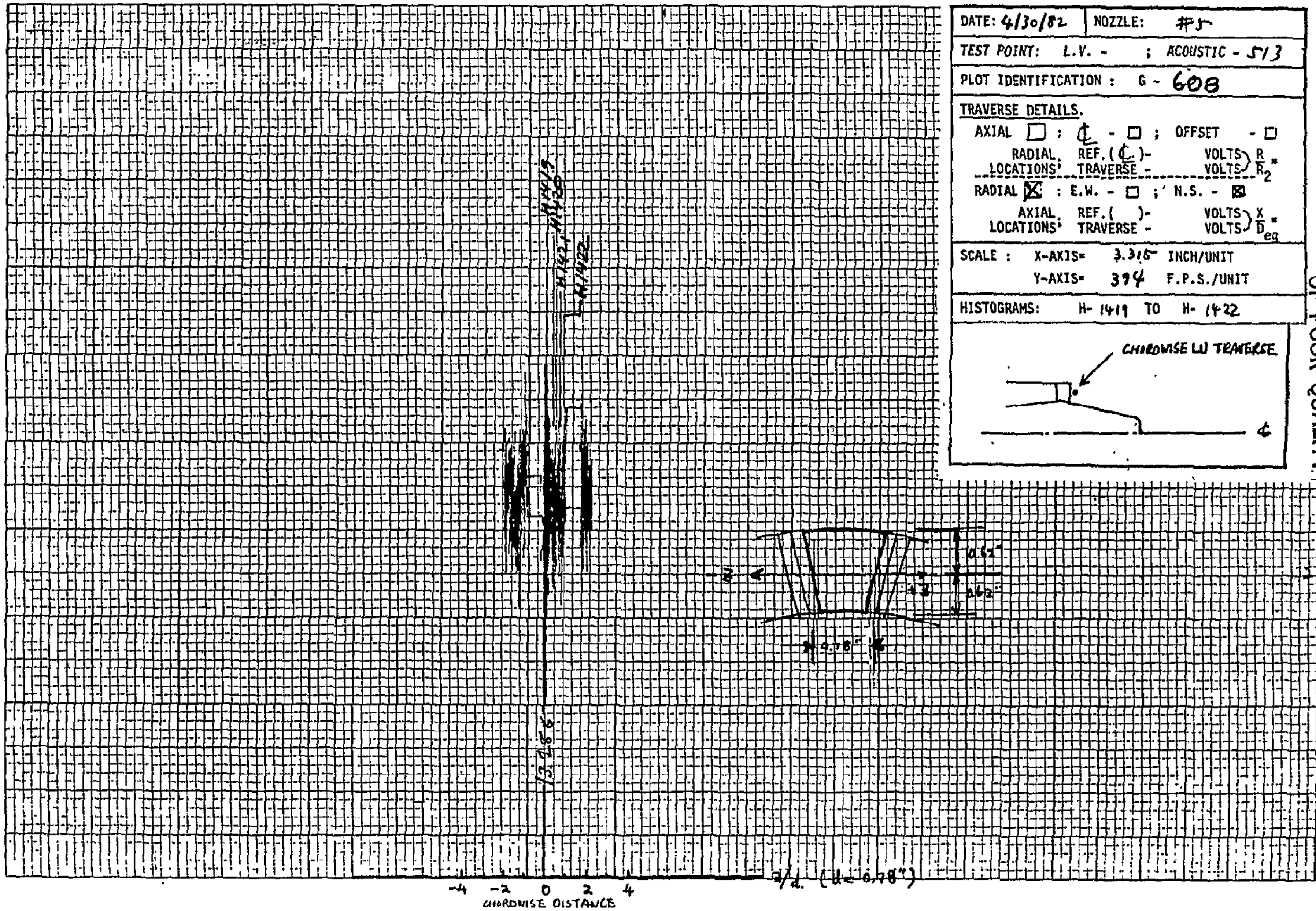
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS, REF. ( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.315" INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- 1419 TO H- 1422



No. XY 1101

1091

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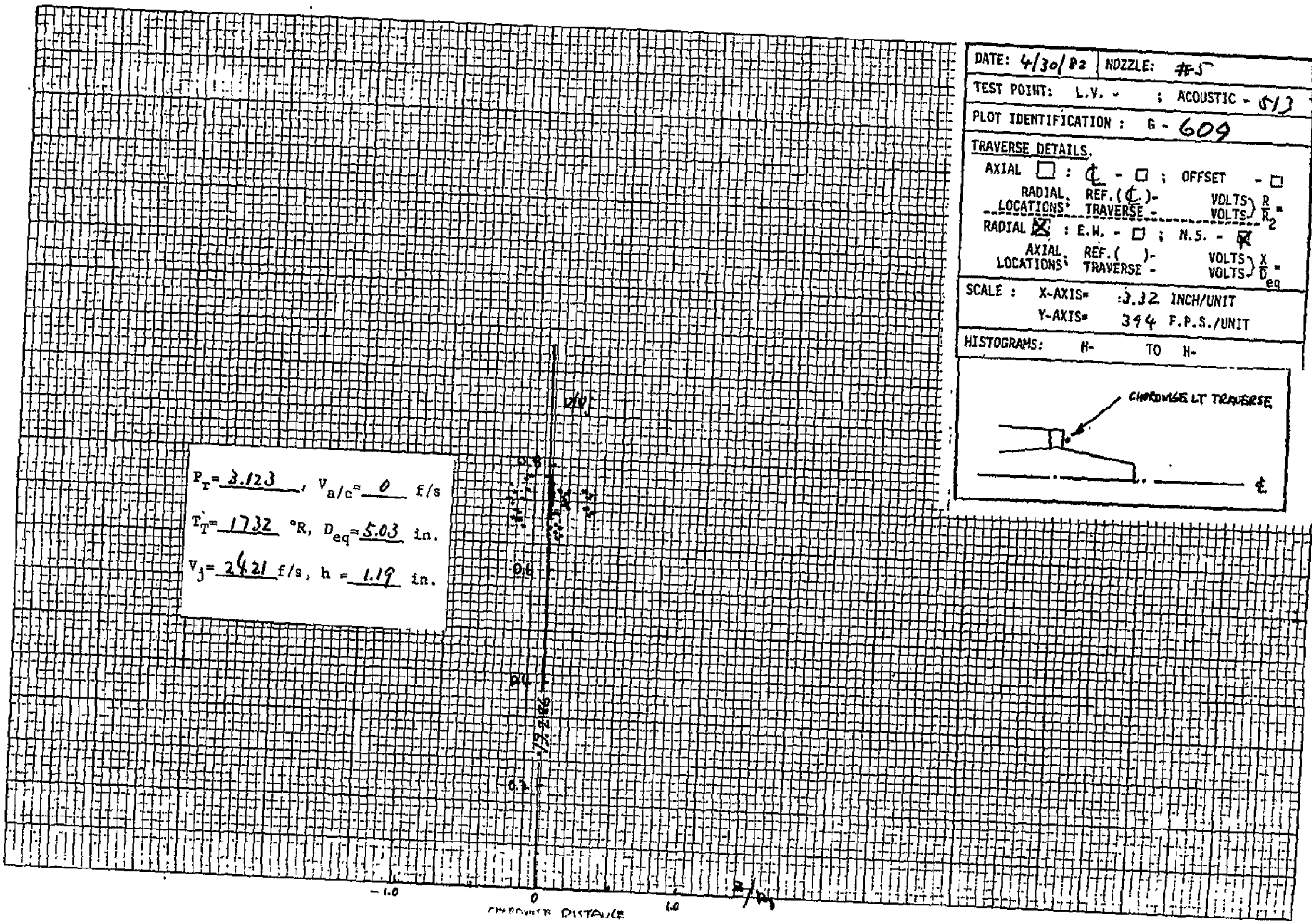
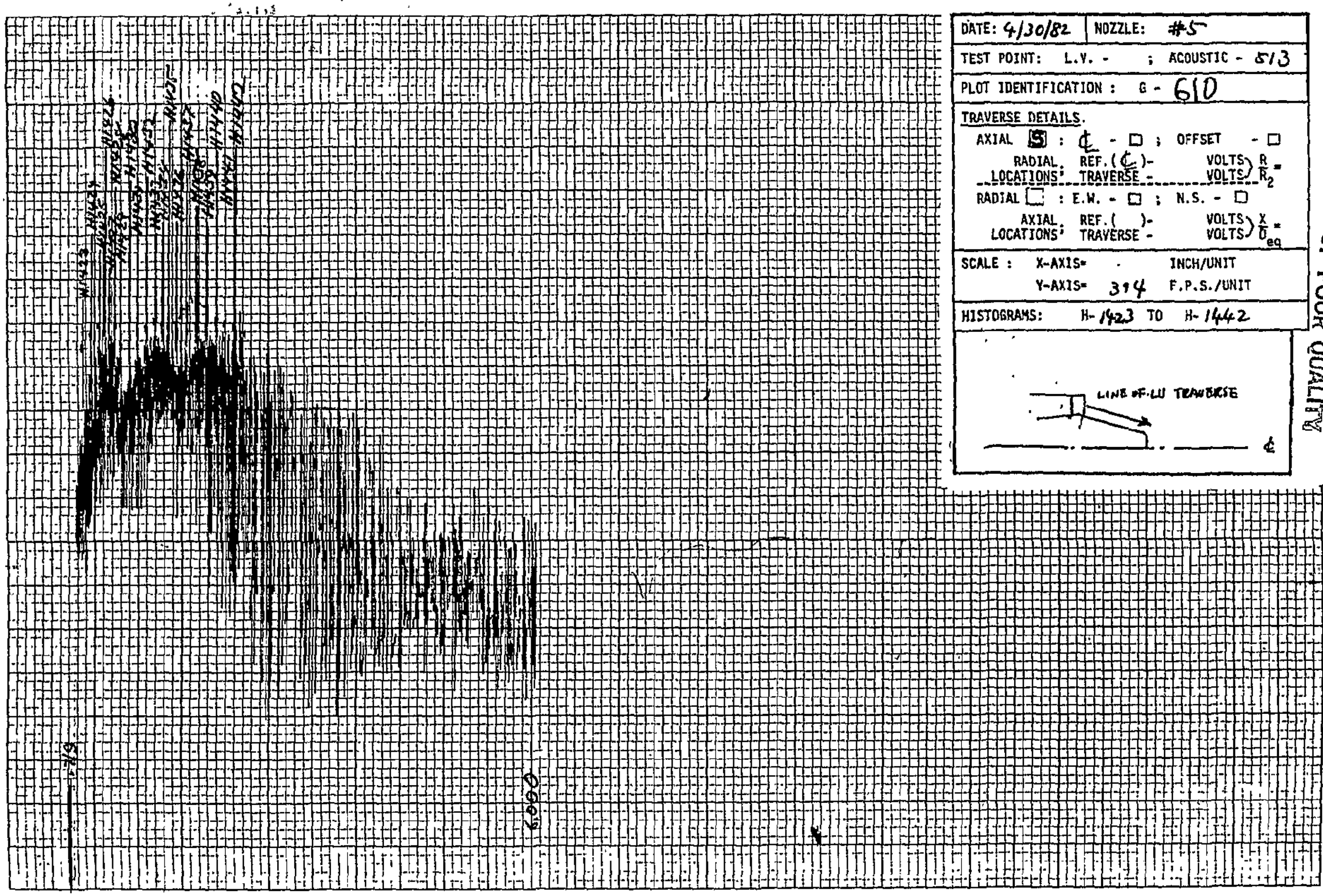


No. XY 1101

1092

1093

NO. XY 1101



DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 610	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= . INCH/UNIT

Y-AXIS= 314 F.P.S./UNIT

HISTOGRAMS: H-1423 TO H-1442

DATE: 4/30/82	NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 611

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS*, REF. (℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

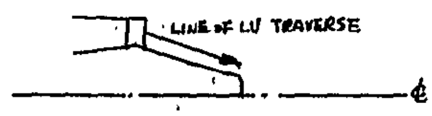
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS*, REF. ( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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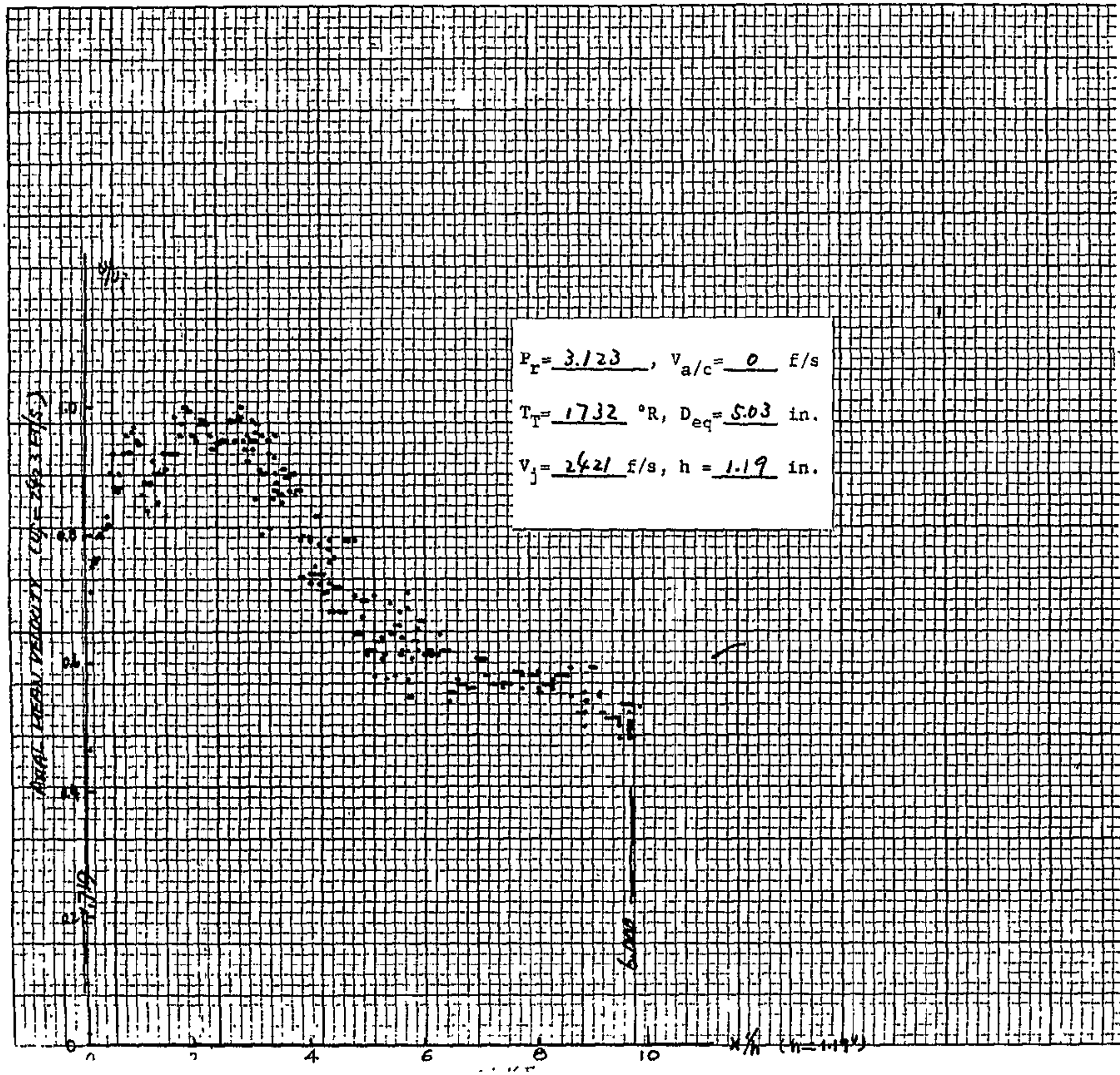


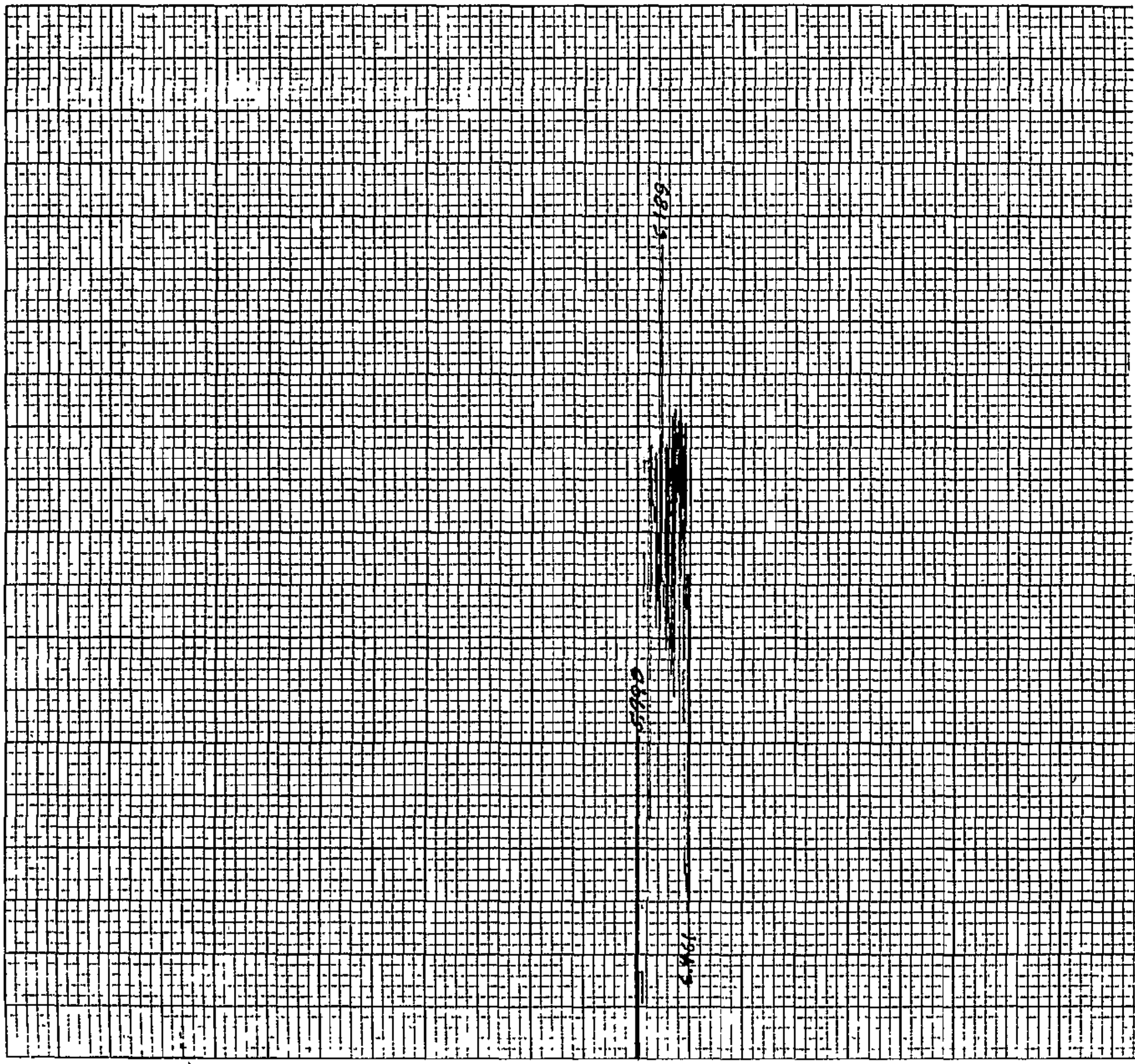
1094

No. XY 1101

RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK

NO. XY 1101

1095



DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 612

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

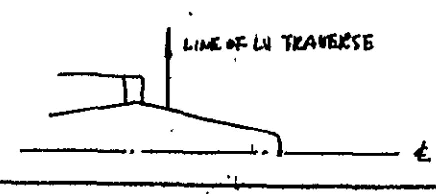
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



NO. XY 1101

1096

DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 613	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS R/R_2 =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

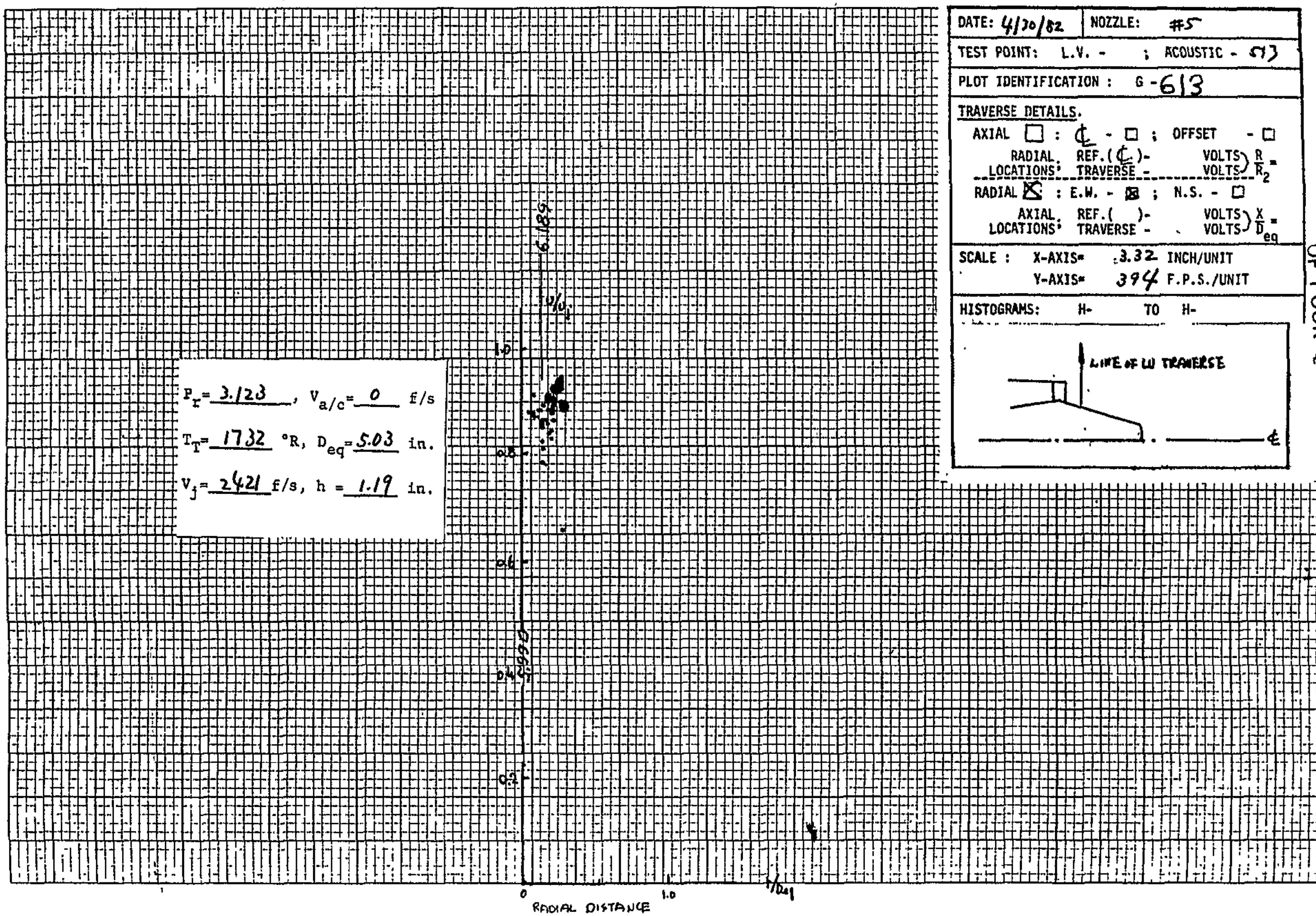
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS X/D_{eq} =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



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DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 614

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

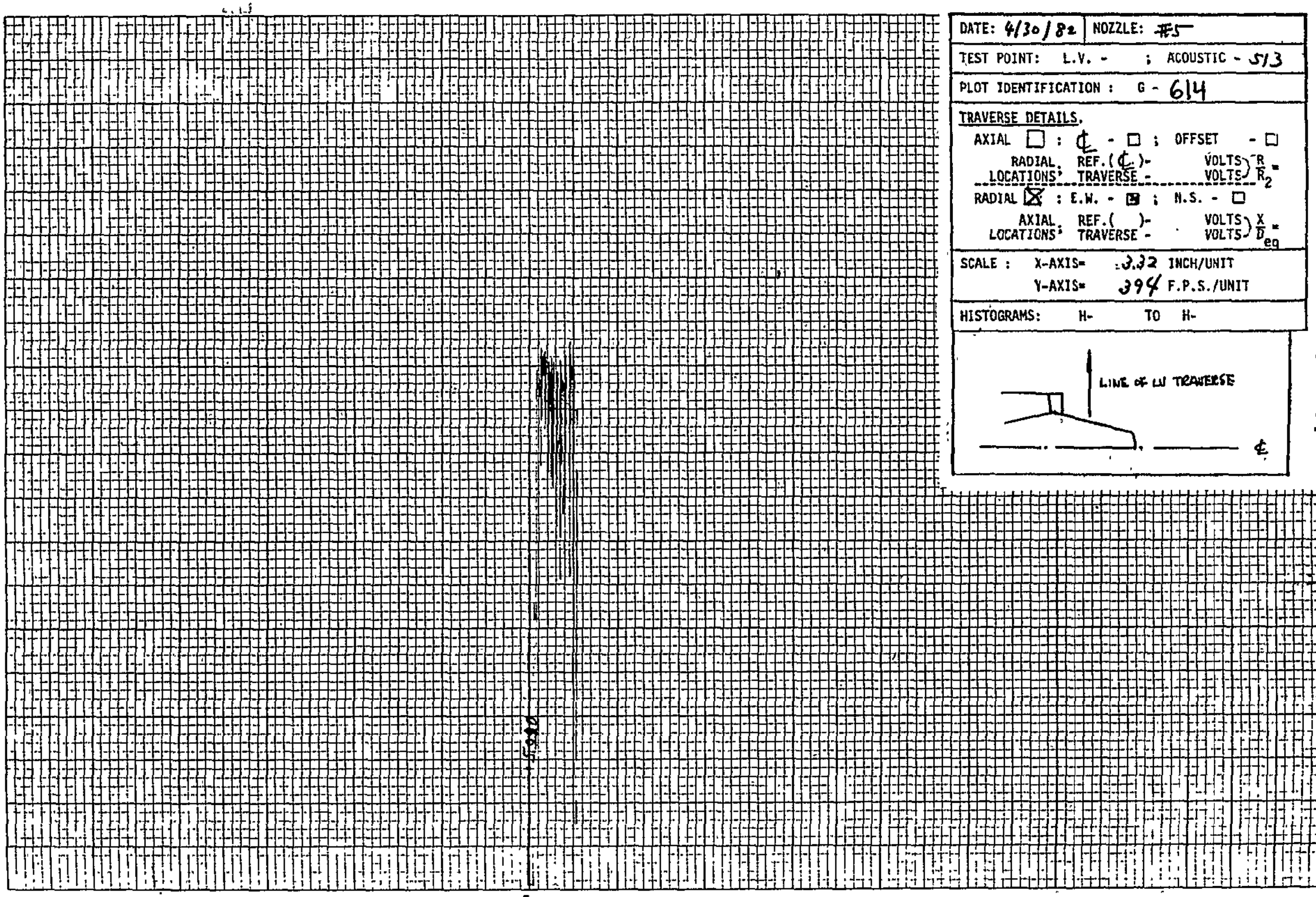
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

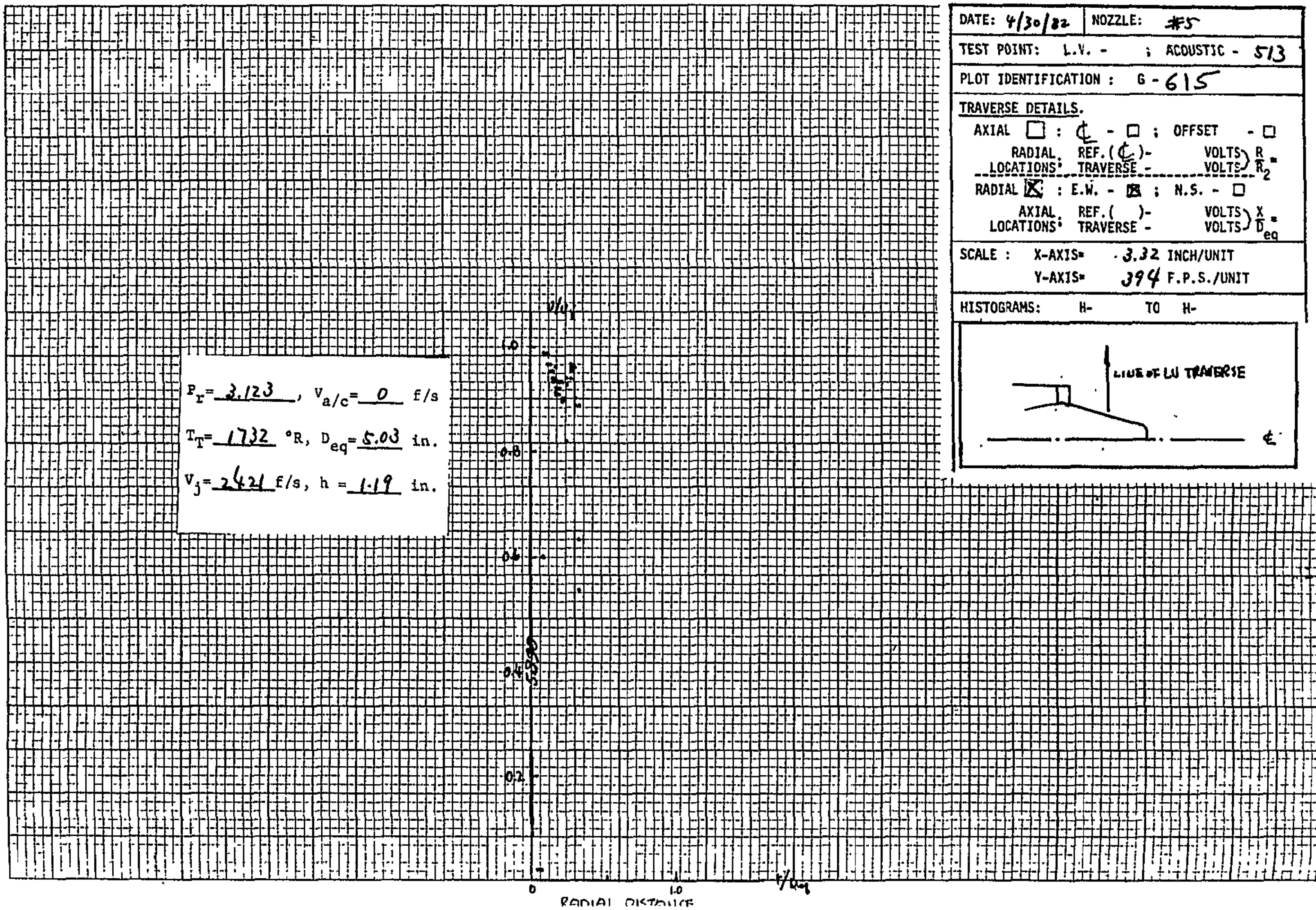
SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1097



P_r = 3.123, $V_{a/c}$ = 0 f/s

T_T = 1732 °R, D_{eq} = 5.03 in.

V_j = 2421 f/s, h = 1.19 in.

DATE: 4/30/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 615

TRAVERSE DETAILS.

AXIAL ☐ : ₵ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(₵)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

1098

DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 543	
PLOT IDENTIFICATION : G-616	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

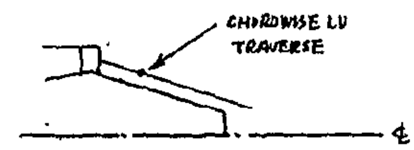
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

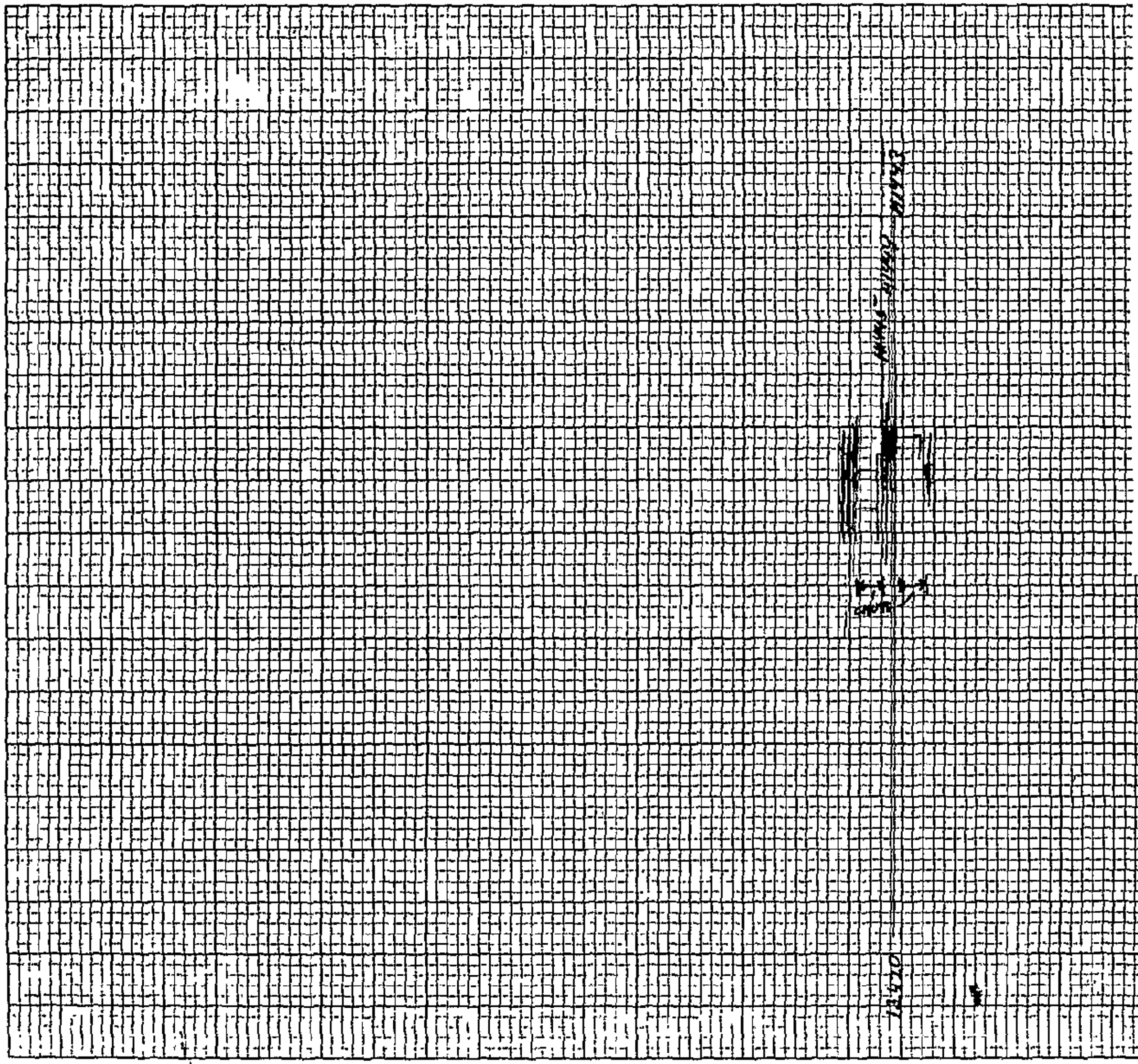
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1443 TO H-1445





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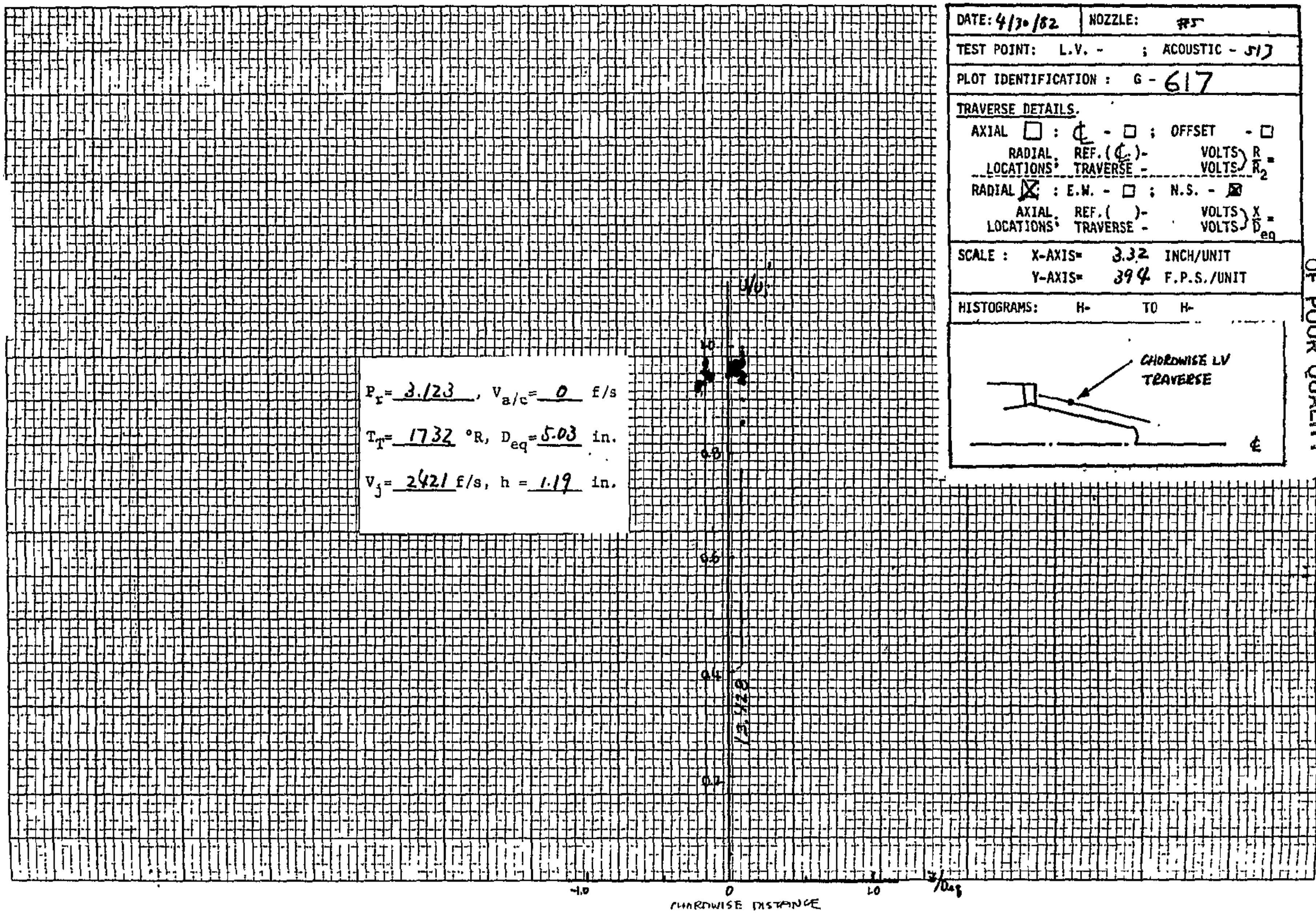
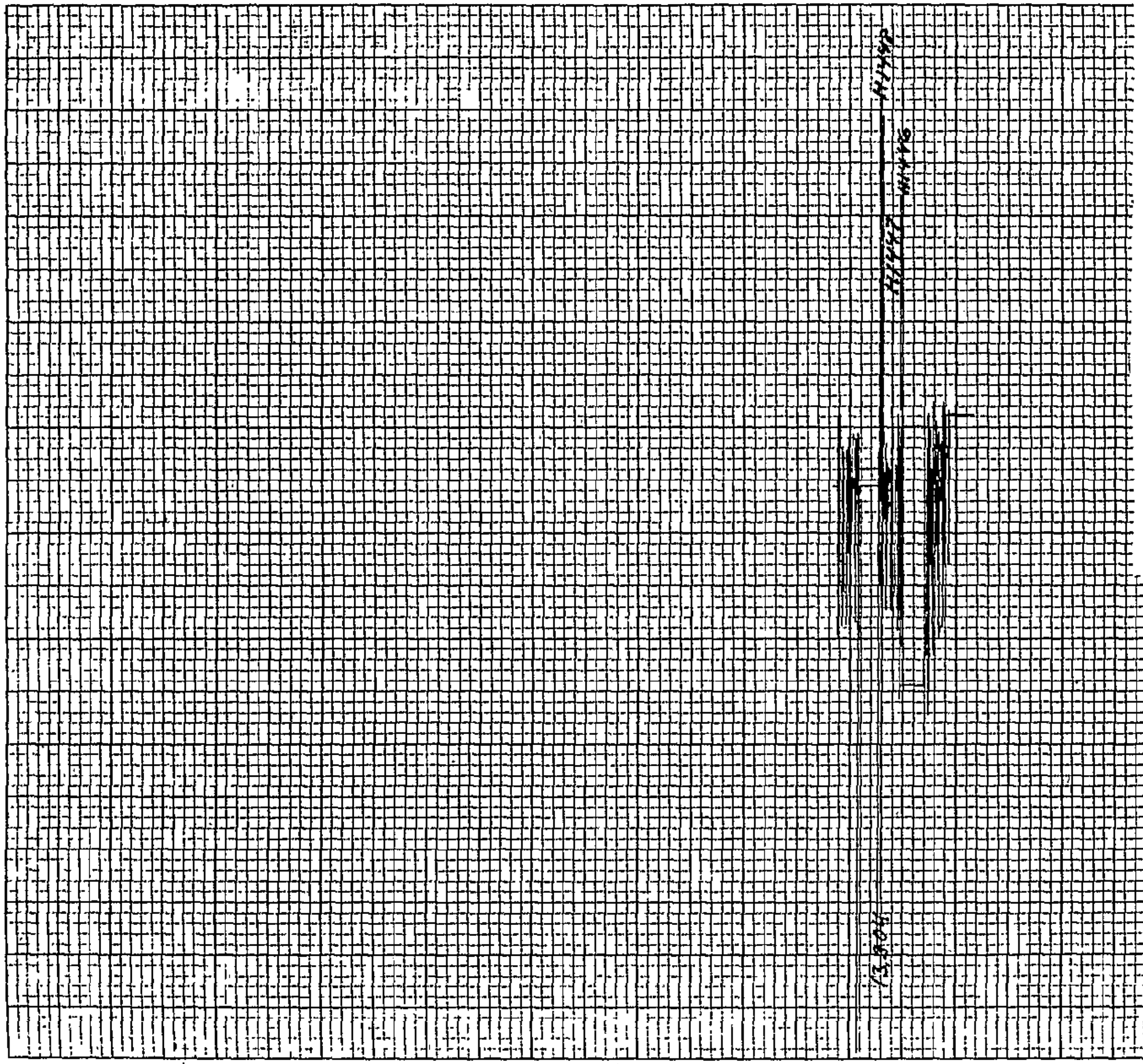

DATE: 4/30/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513
PLOT IDENTIFICATION : G - 617
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS } R/R2 =
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS } X/Deq =
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
CHORDWISE LV TRAVERSE
℄
Pr= 3.123 , Va/c= 0 f/s
TT= 1732 °R, Deq= 5.03 in.
Vj= 2421 f/s, h = 1.19 in.
V/Vj
1.0
0.8
0.6
0.4
0.2
-1.0
0
1.0
x/Deq
CHORDWISE DISTANCE



DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 618	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

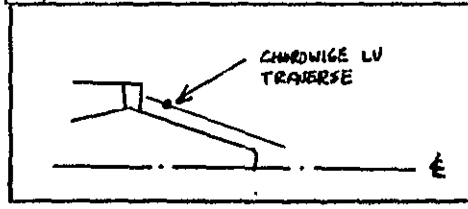
RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 3.32 INCH/UNIT
Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H-1446 TO H-1448



DATE: 4/30/82	NOZZLE: #5	
TEST POINT: L.V. - ; ACOUSTIC - 513		
PLOT IDENTIFICATION : G - 619		

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

CHORDWSE LV TRAVERSE

℄

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1102

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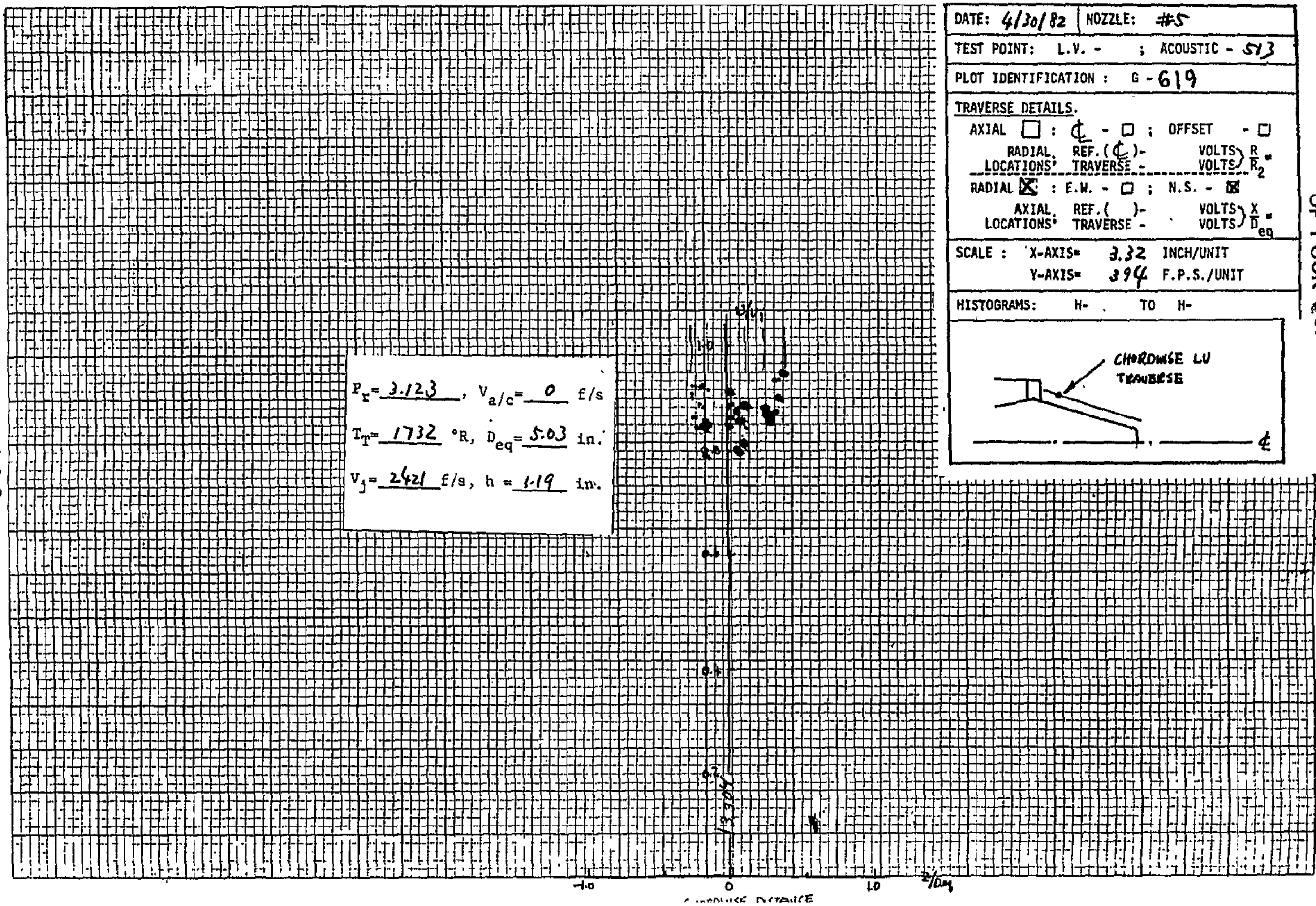
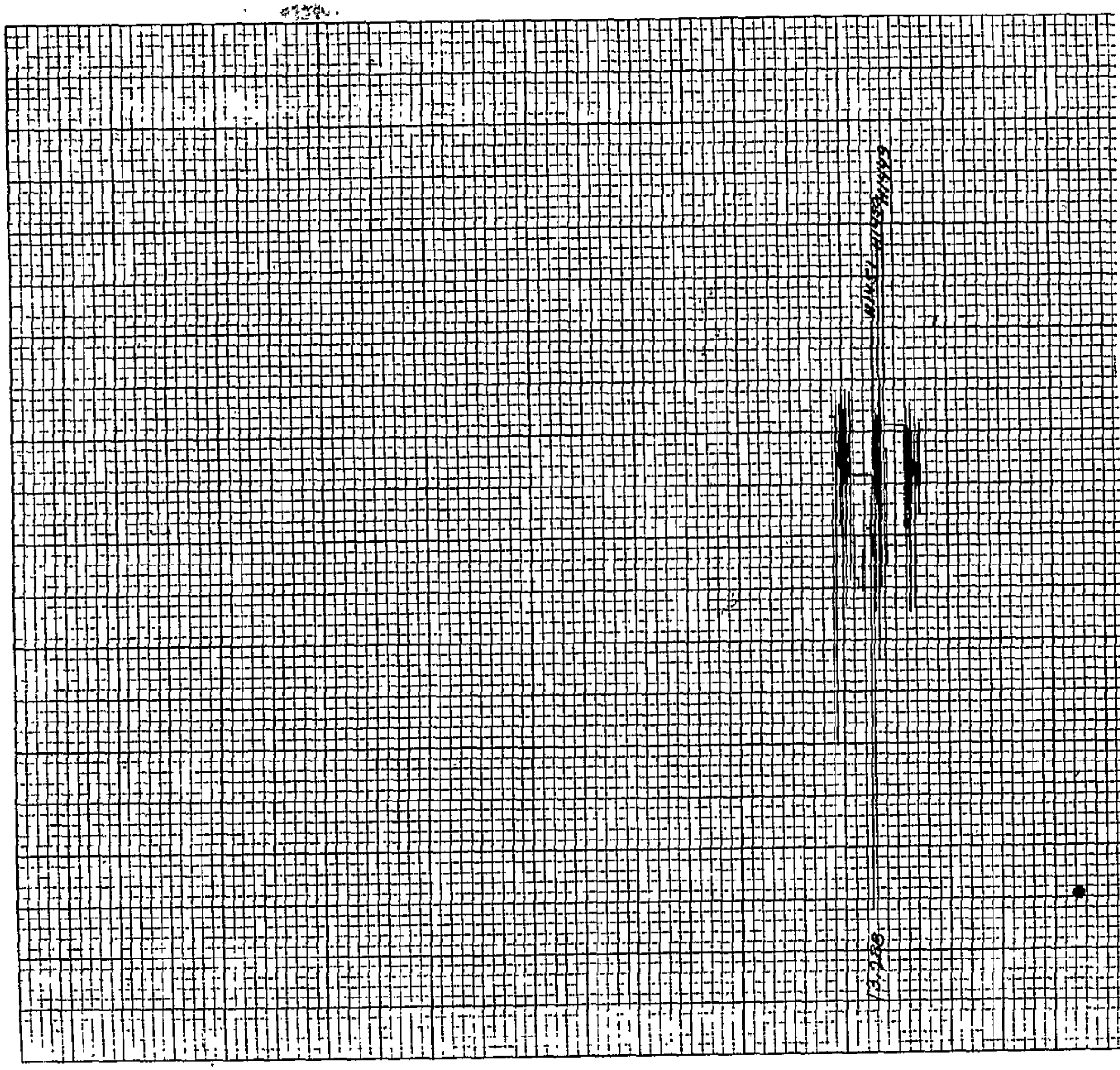
P_r= 3.123 , $V_{a/c}$= 0 f/s

T_T= 1732 °R, D_{eq}= 5.03 in.

V_j= 2421 f/s, h = 1.19 in.





DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 620

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

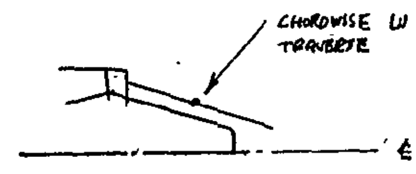
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1449 TO H-1451



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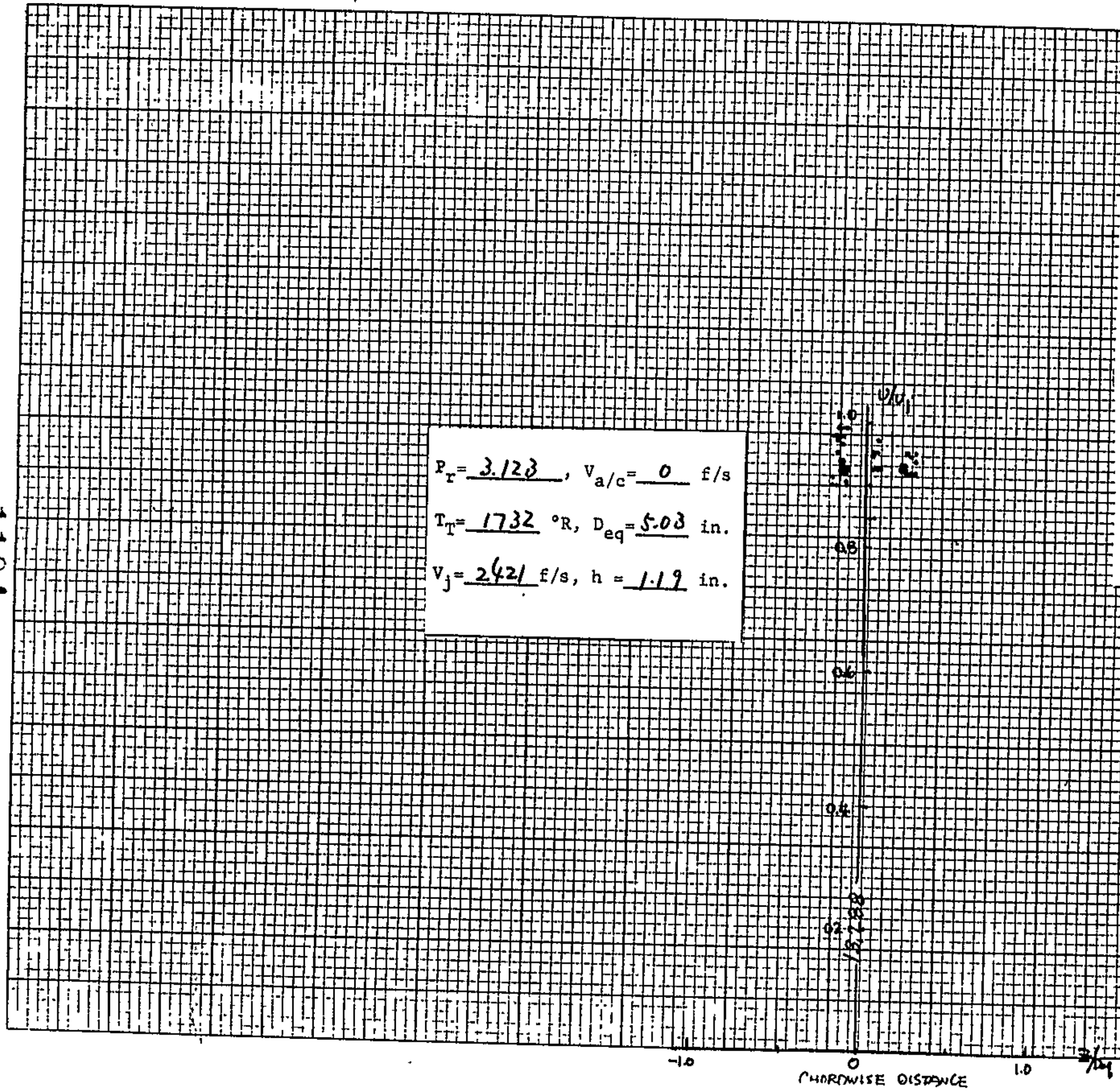
No. XY 1101

1103



P_r = 3.123 , $V_{a/c}$ = 0 f/s

T_T = 1732 °R, D_{eq} = 5.03 in.

V_j = 2421 f/s, h = 1.19 in.

DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 621

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS R/R_2 =

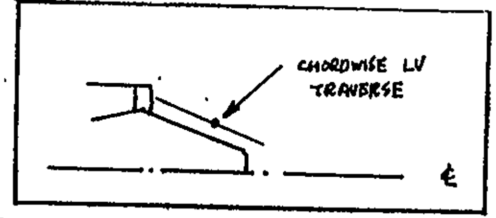
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS X/D_{eq} =

SCALE : X-AXIS = 3.32 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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1104

NO. XY 1101

1105

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GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 573

PLOT IDENTIFICATION : G - 622

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS } $\frac{R}{R_2}$ =

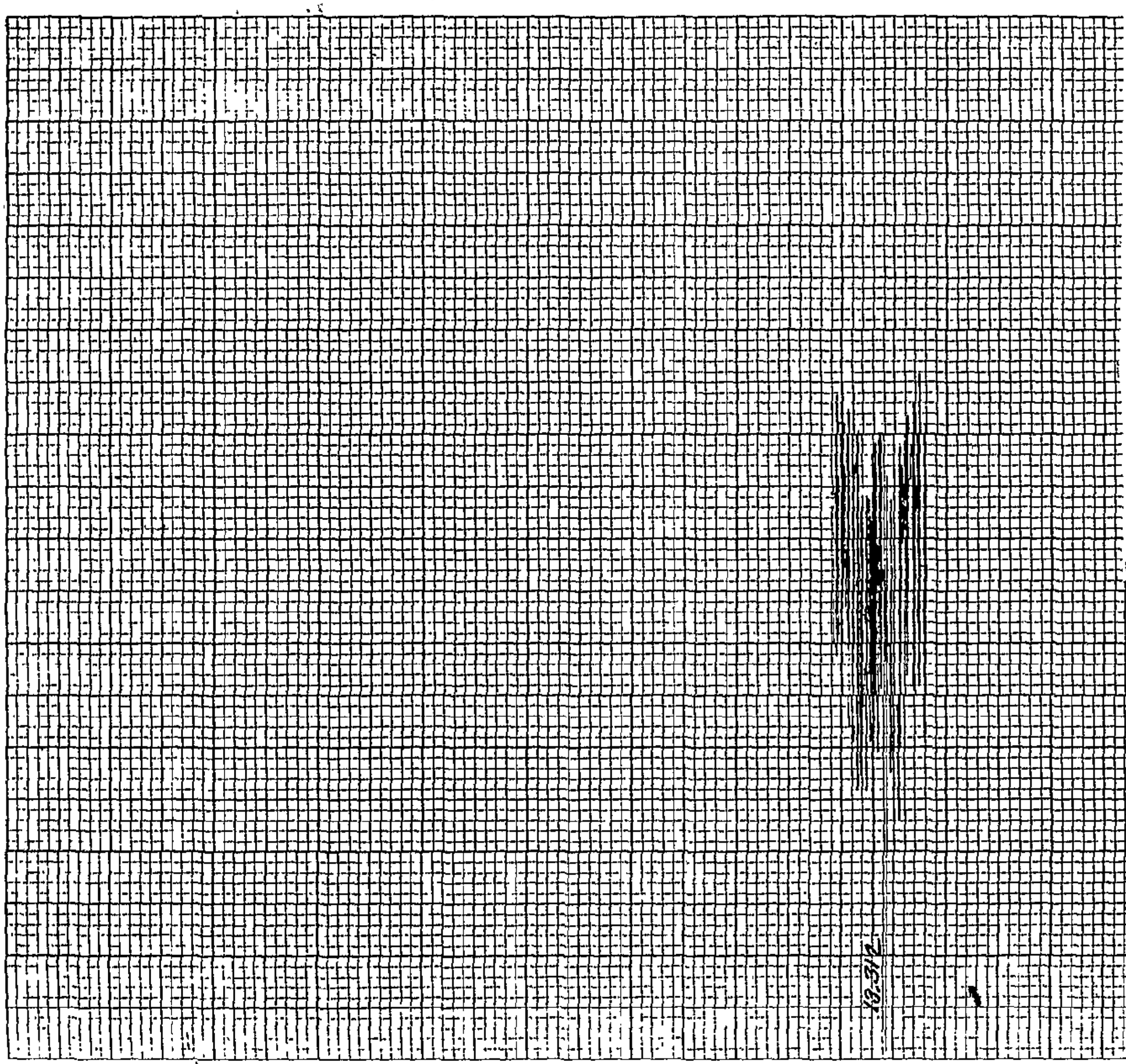
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

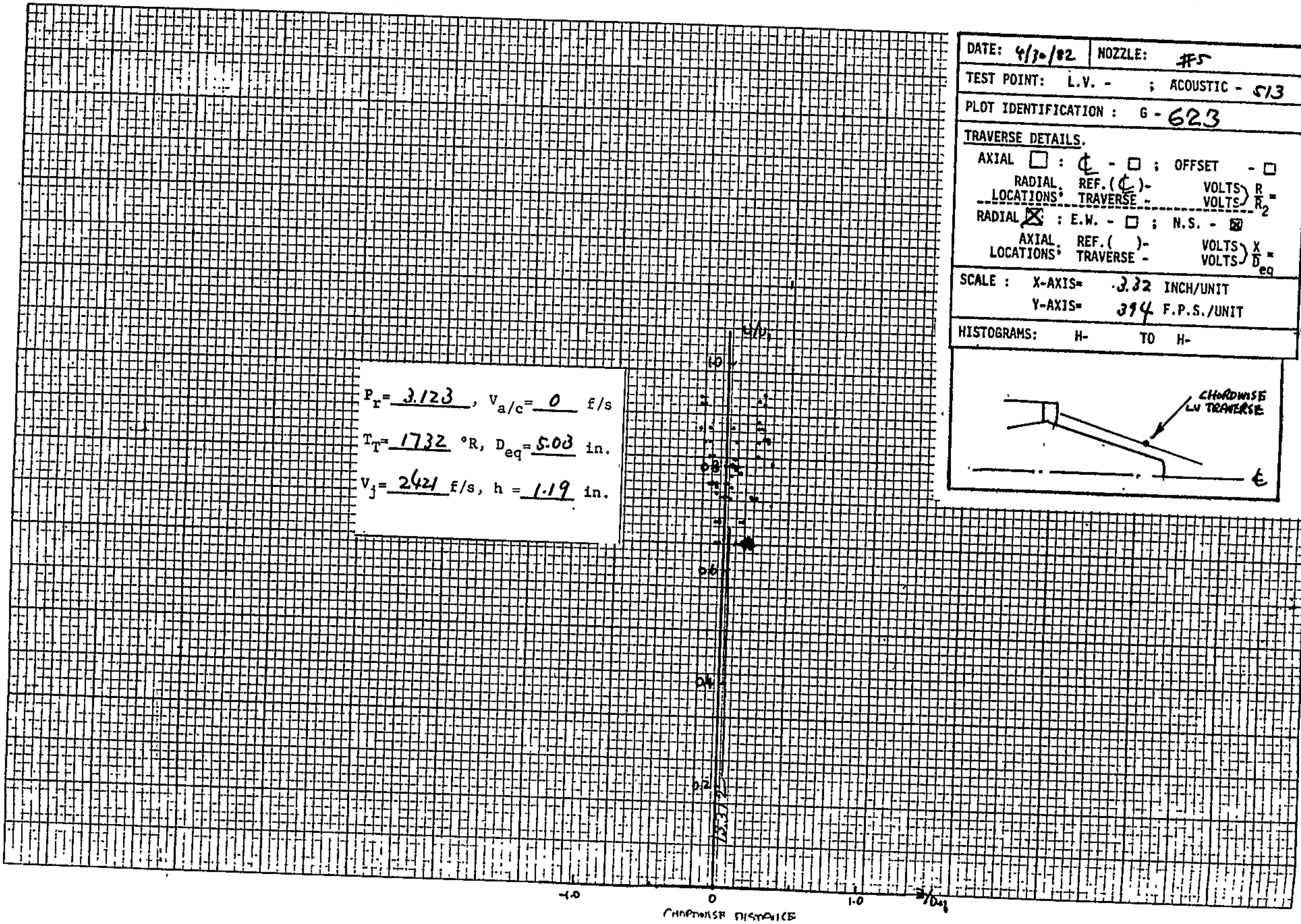
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





1106

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1107

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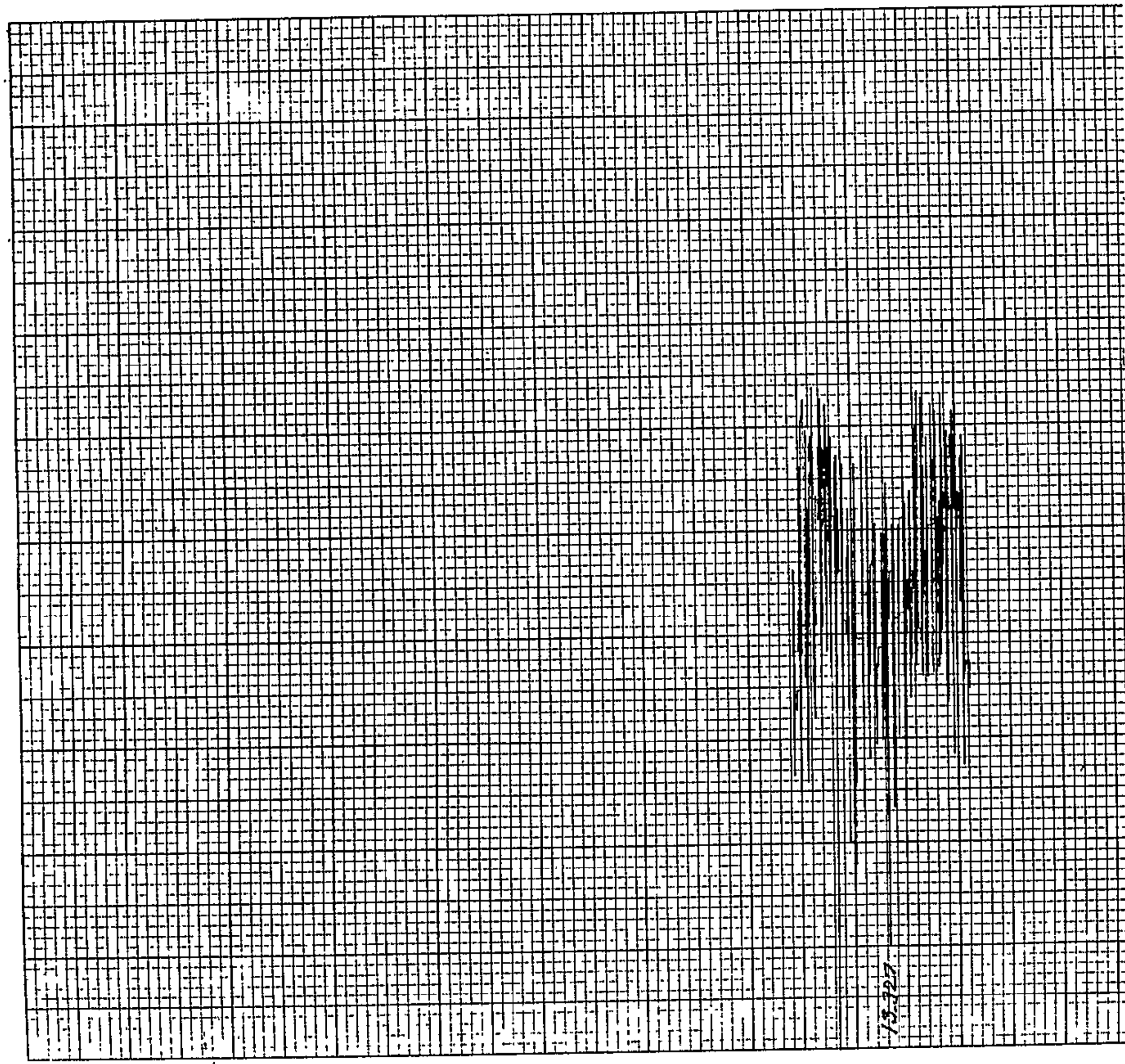


DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 624

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

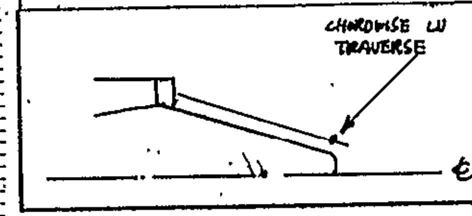
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 625	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

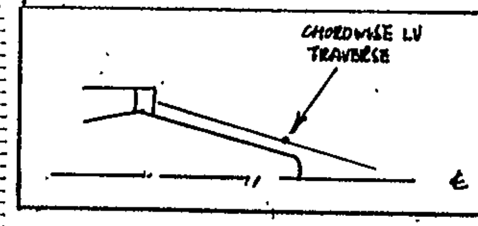
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

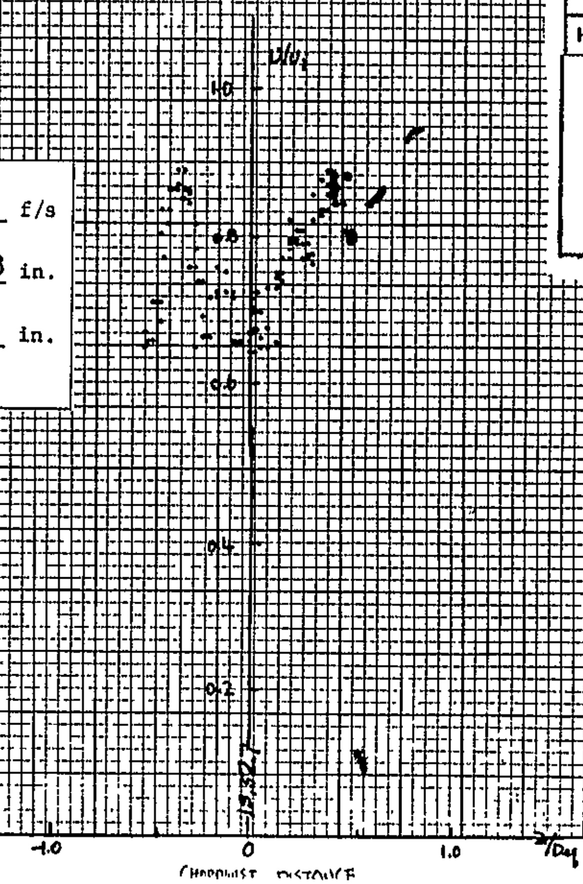


CDE
B/R.

P_r= 3.123 , $V_{a/c}$= 0 f/s

T_T= 1732 °R, D_{eq}= 5.03 in.

V_j= 2421 f/s, h = 1.19 in.



DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 626

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

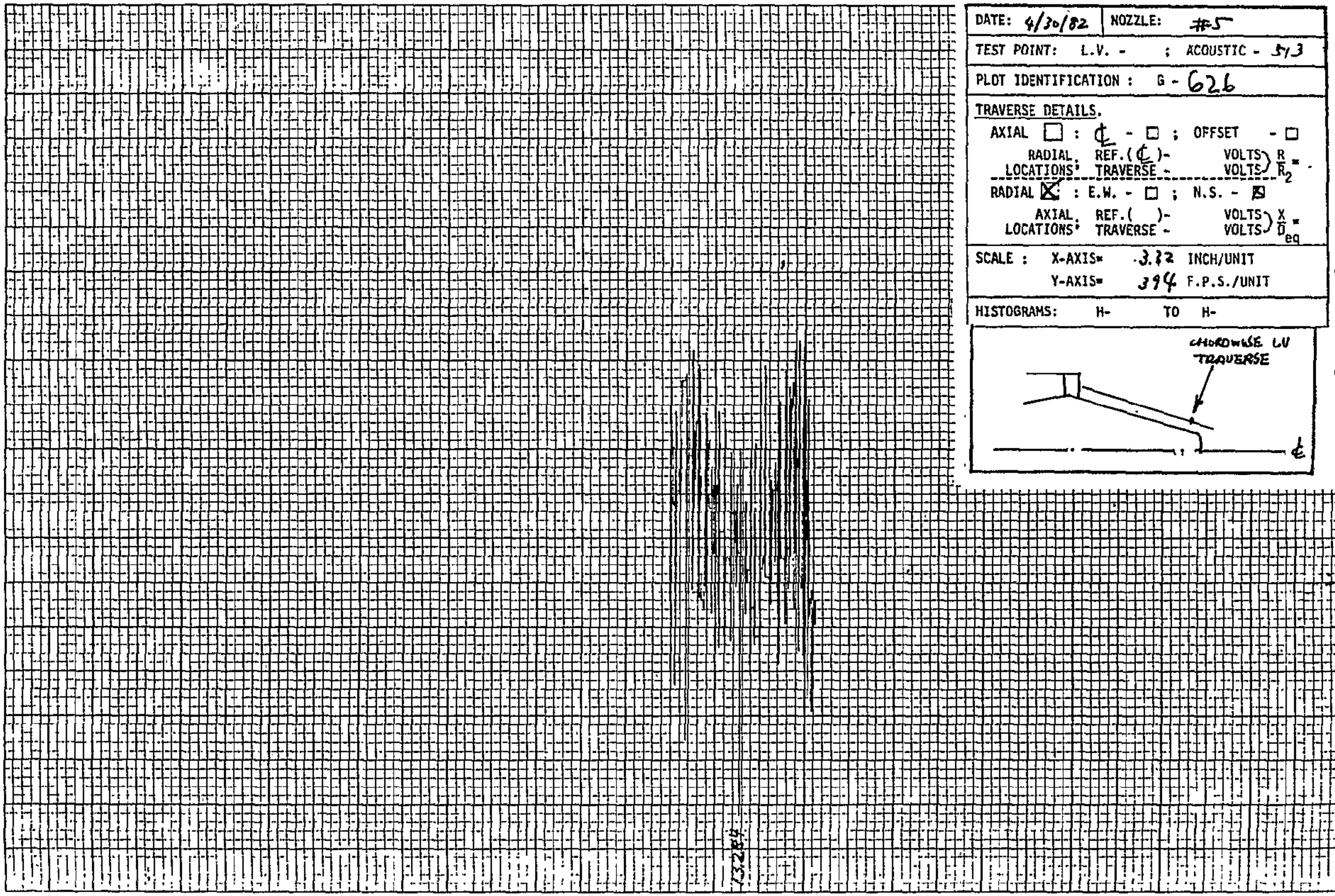
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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1109

DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 627	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS + VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

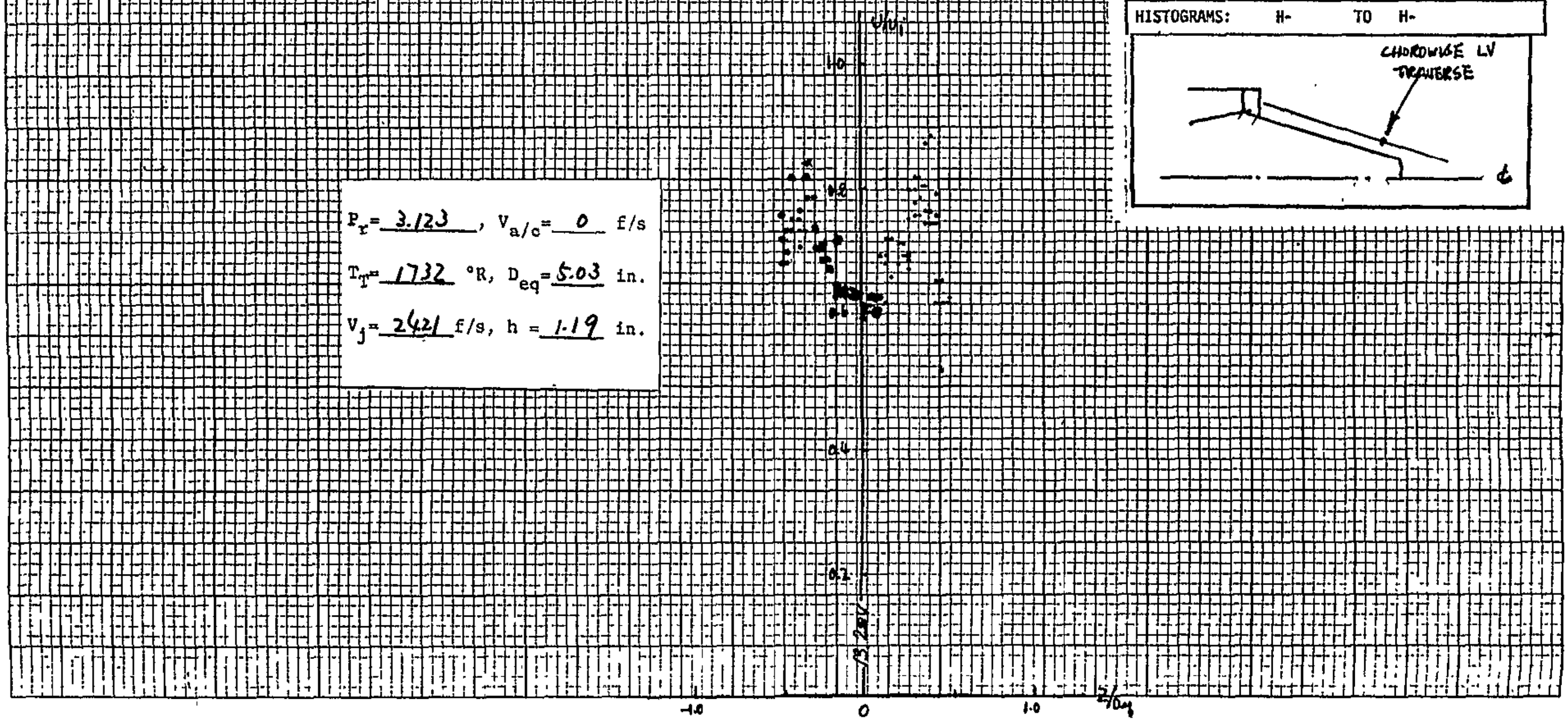
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =

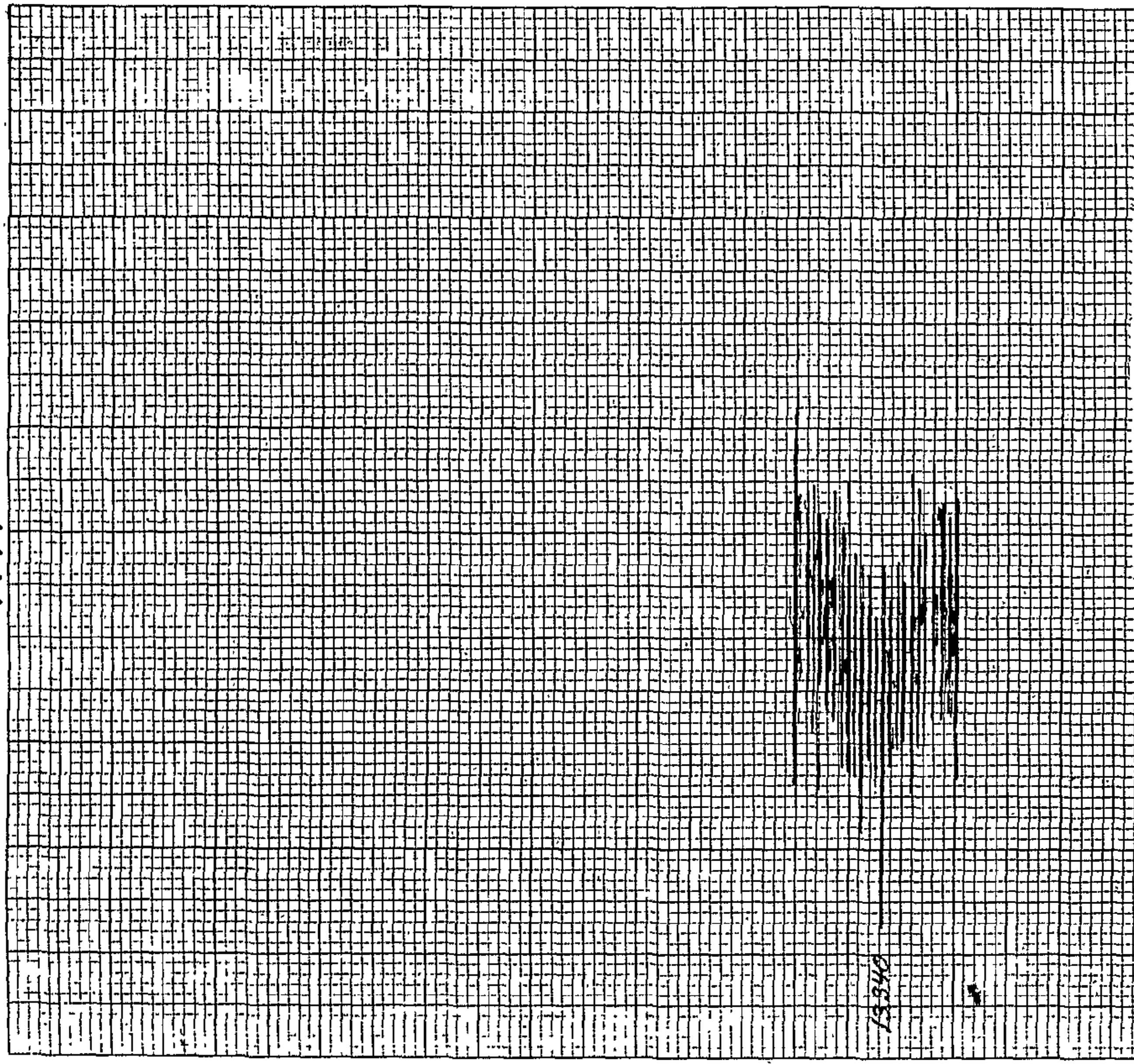
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

CHORDWISE LV TRAVERSE

℄





DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 628

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

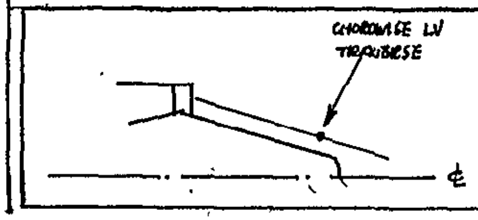
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G - 629	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

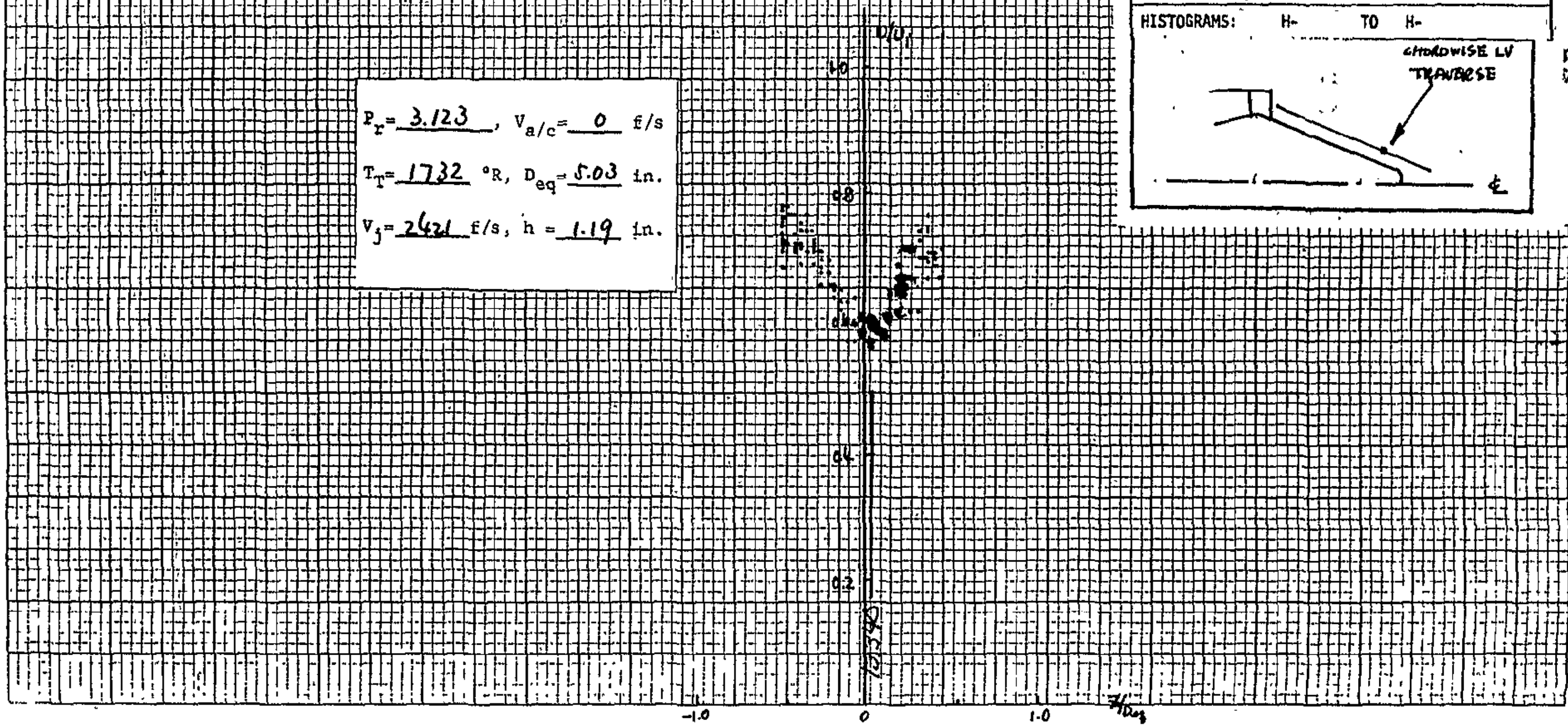
CHORDWISE LV TRAVERSE

℄

P_r = 3.123, $V_{a/c}$ = 0 f/s

T_T = 1732 °R, D_{eq} = 5.03 in.

V_j = 2621 f/s, h = 1.19 in.



1112

DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 630

TRAVERSE DETAILS.

AXIAL : ℄ - ; OFFSET -

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL : E.W. - ; N.S. -

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

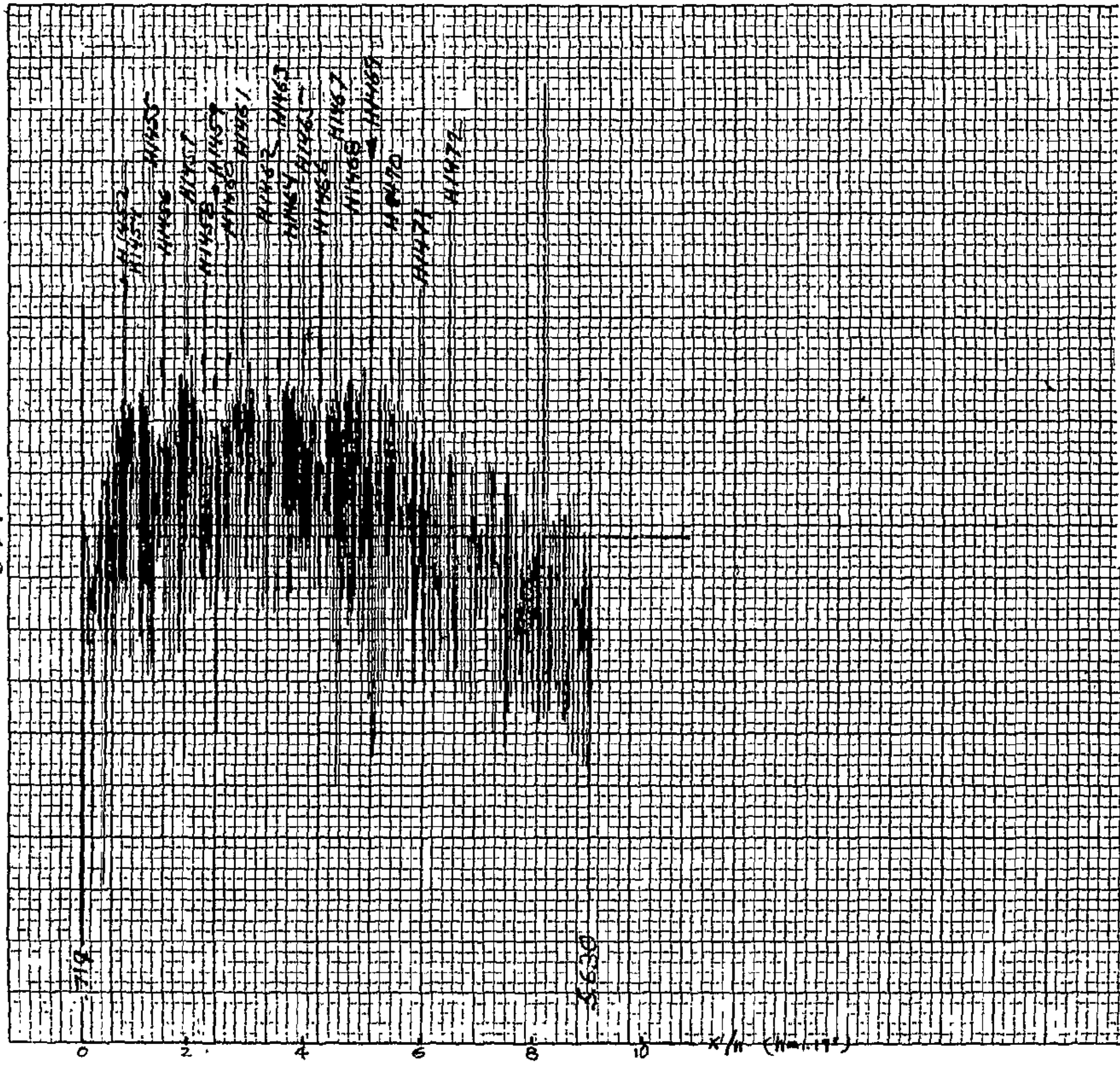
SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- 1452 TO H- 1472

LINE OF LV TRAVERSE

℄



1113

No. XY 1101

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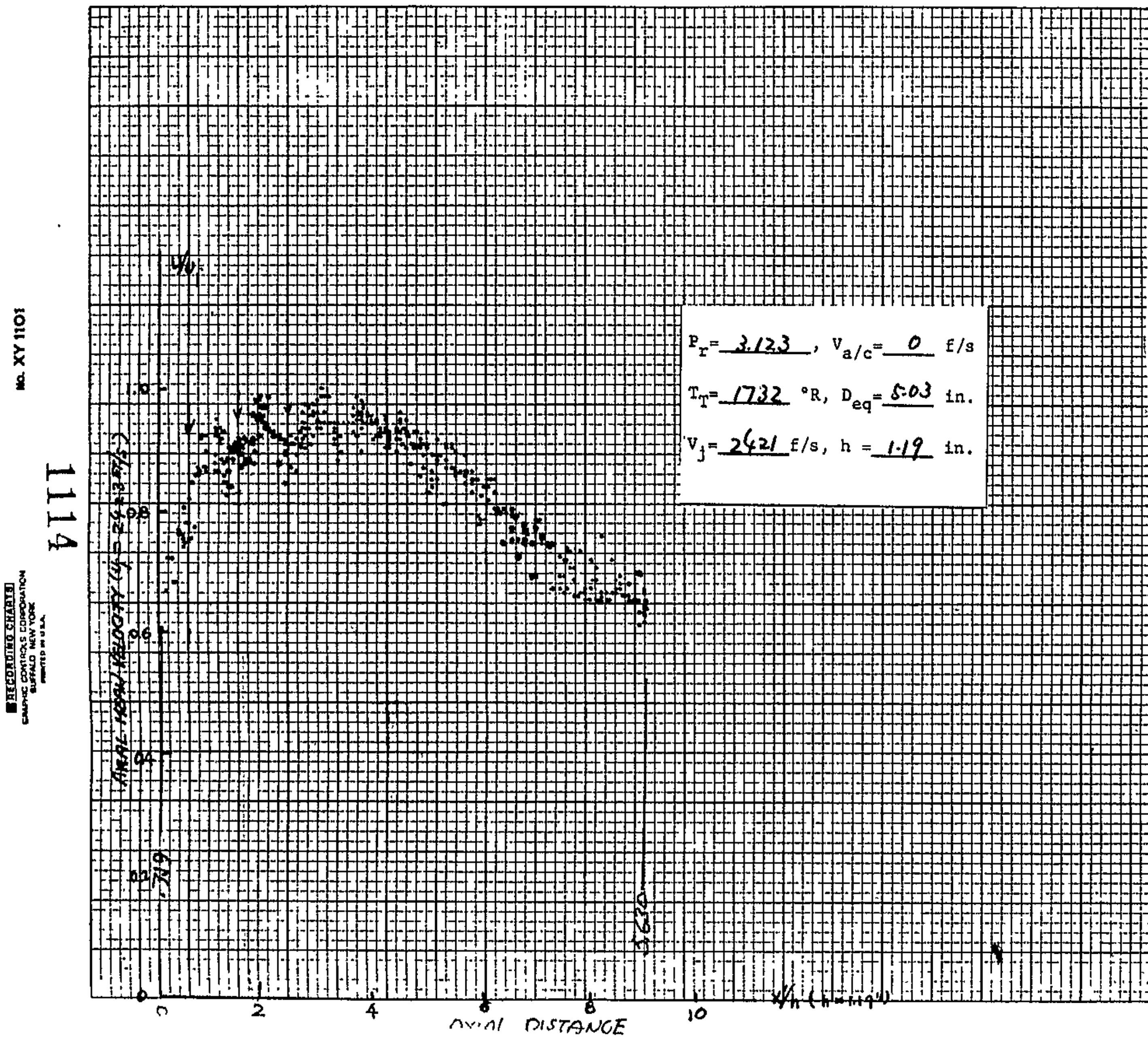


DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 631

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

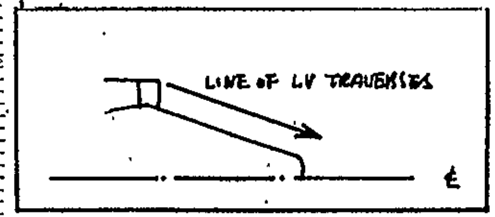
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 632

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

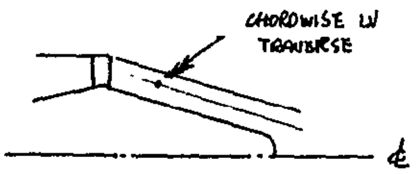
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

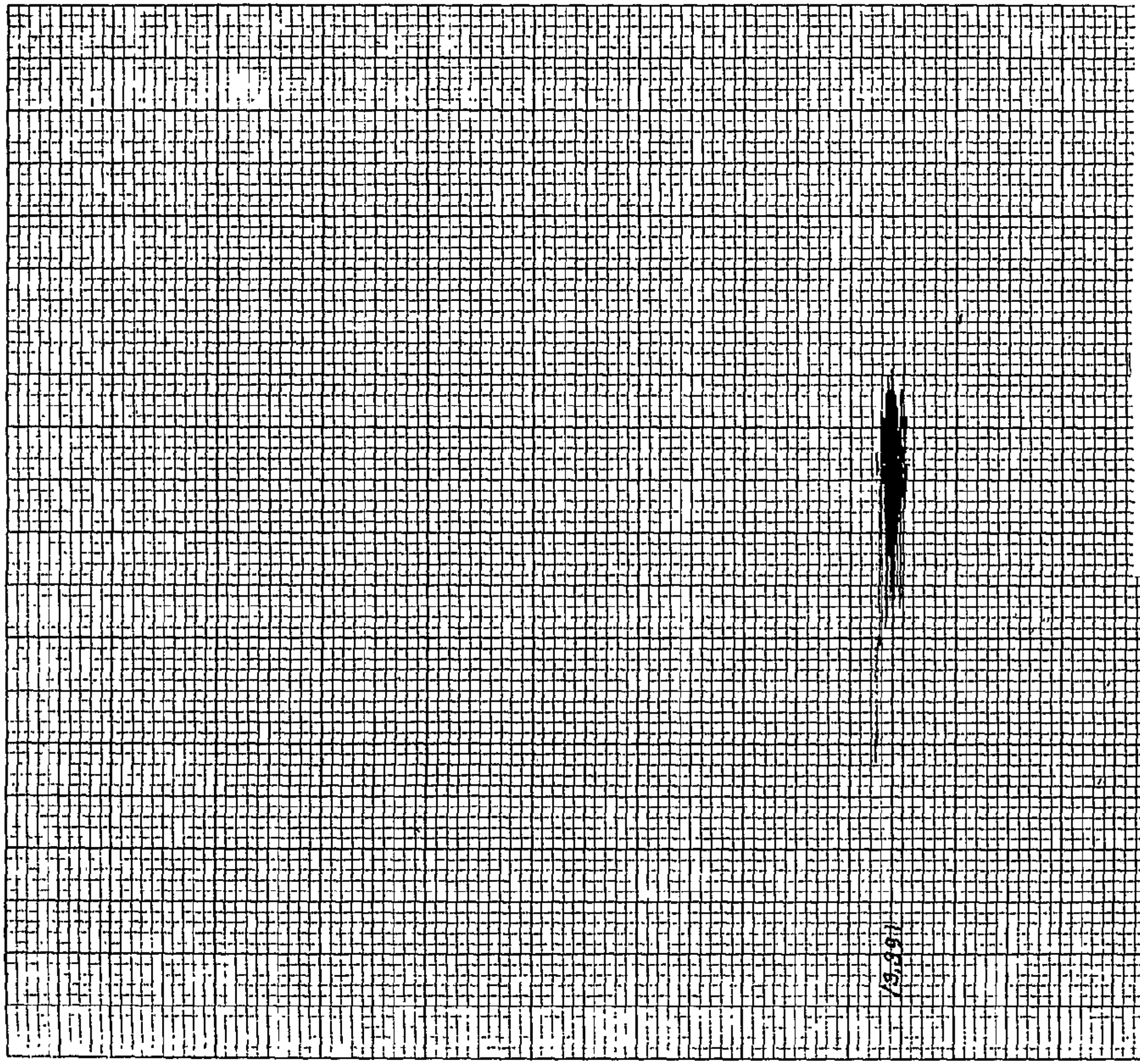
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 3.32 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





REPEATED ON G634

DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 633

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

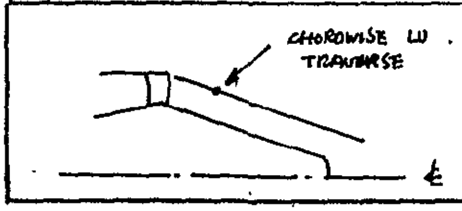
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

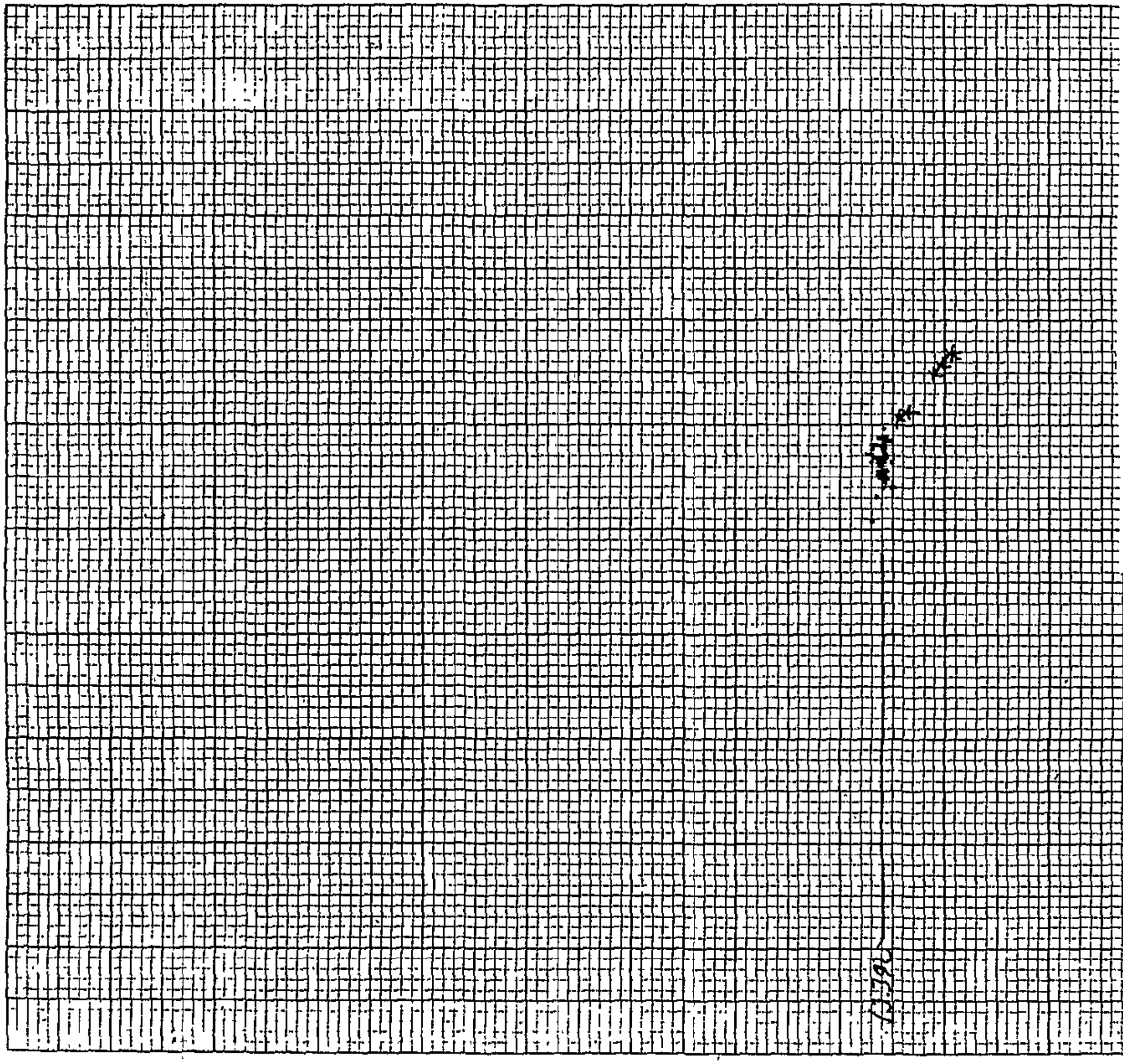
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

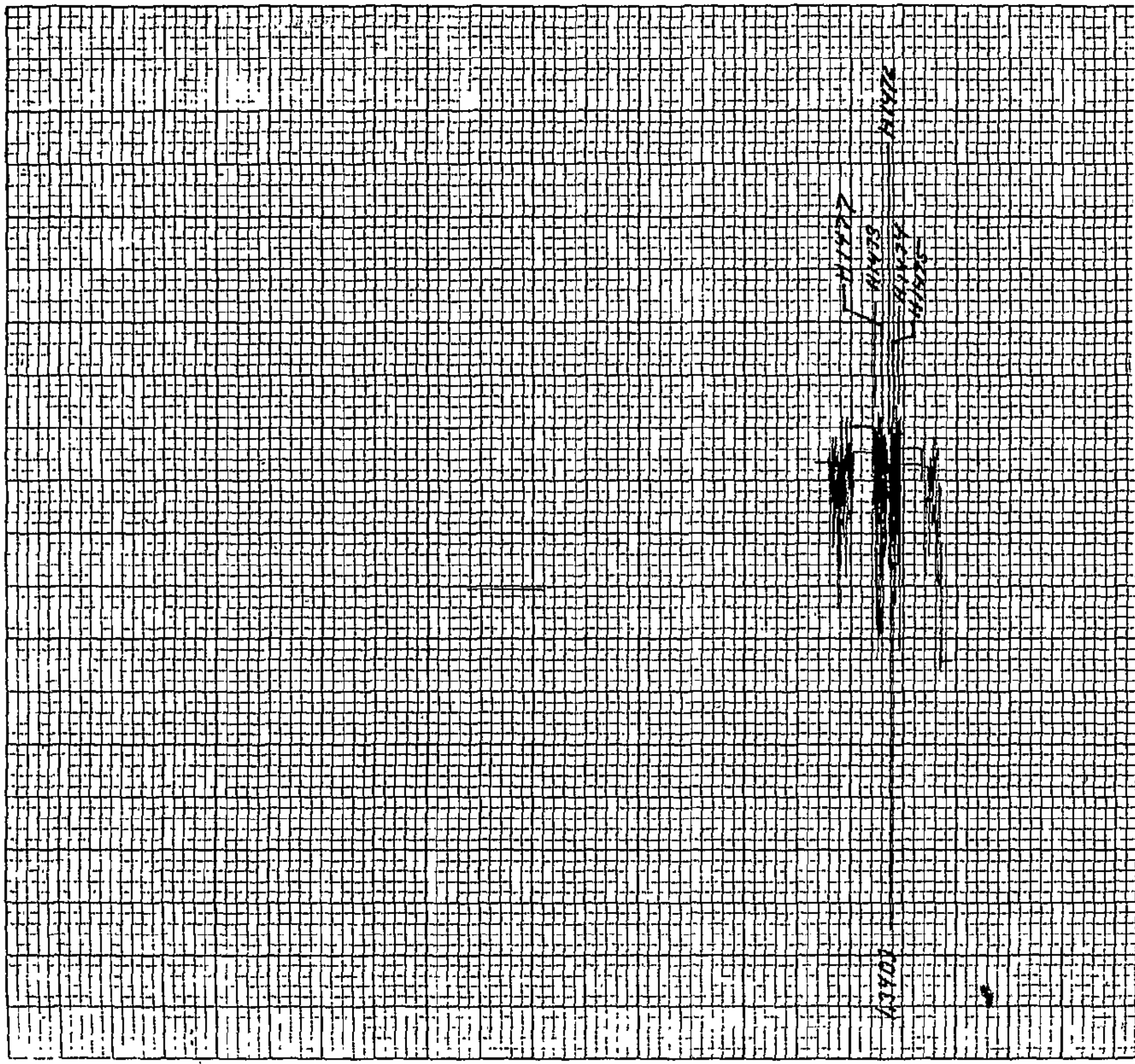




REPEATED ON G-635

No. XY 1101

1116



DATE: 4/20/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 634

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

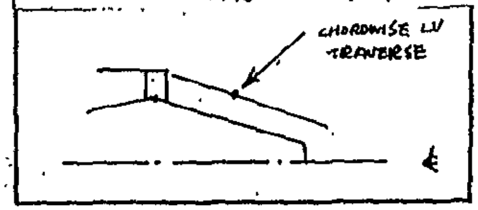
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1473 TO H-1477



1118

DATE: 4/30/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 513

PLOT IDENTIFICATION : G - 635

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( )- VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

CHORDWISE LV TRAVERSE

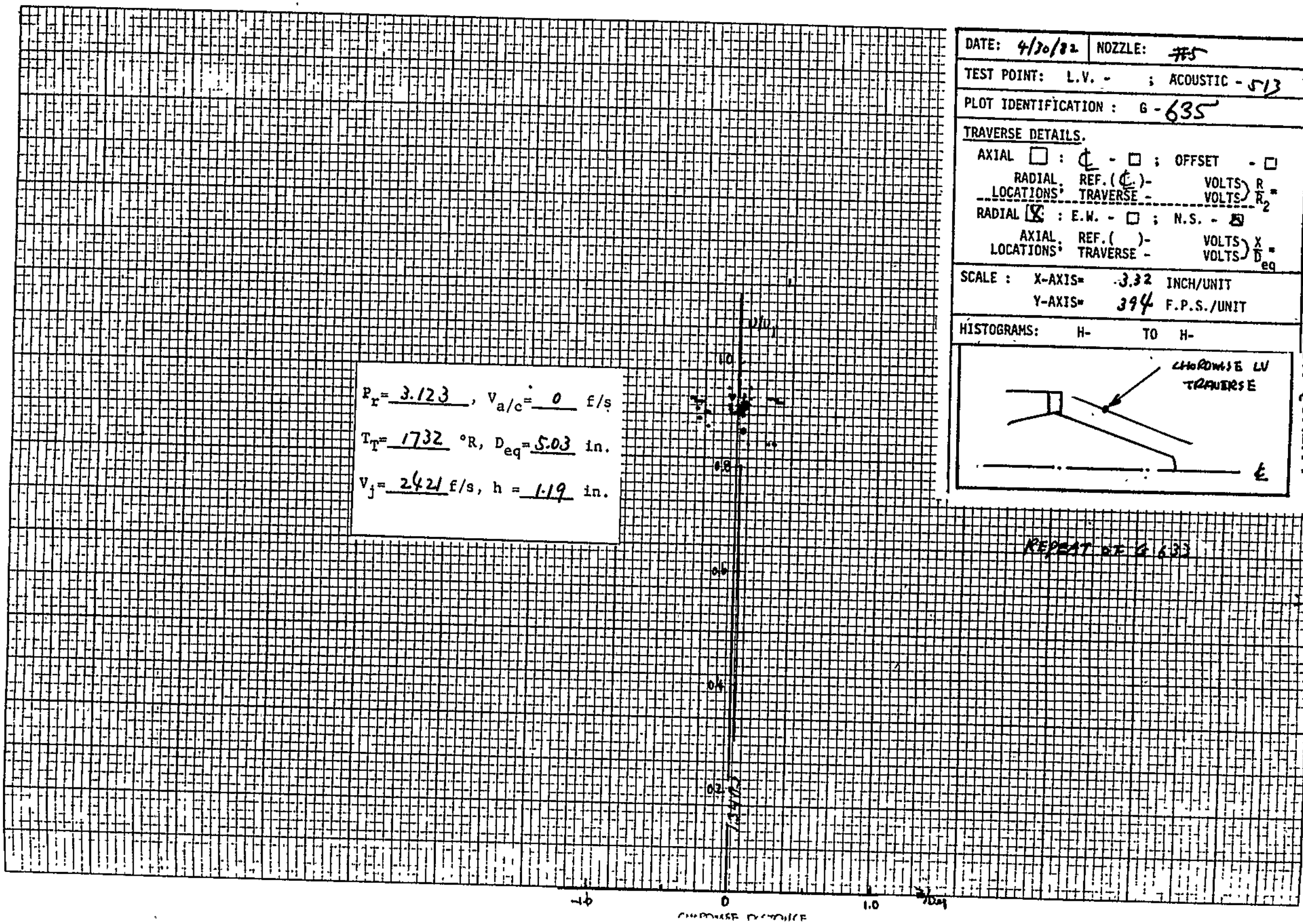
℄

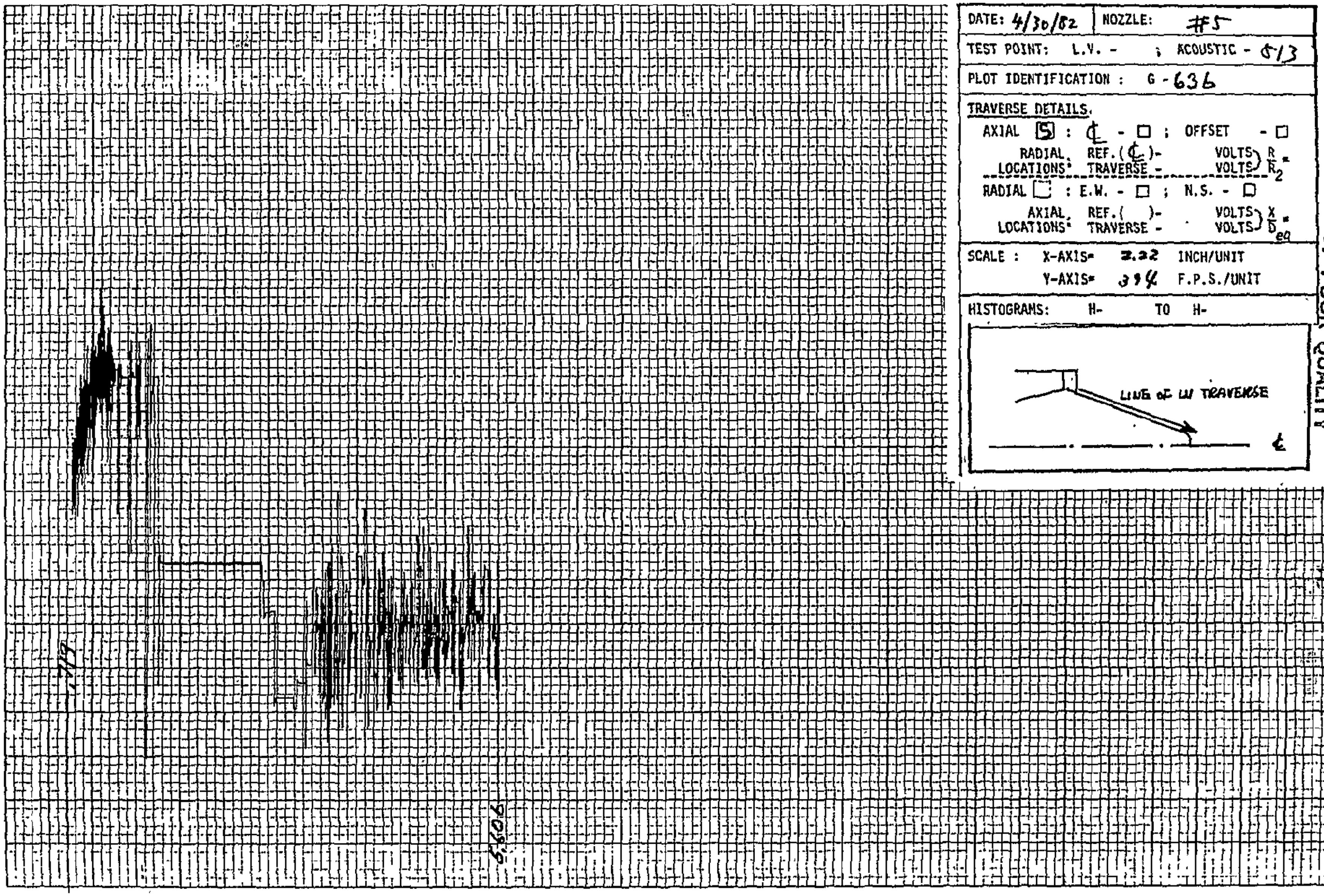
P_r = 3.123 , $V_{a/c}$ = 0 f/s

T_T = 1732 °R, D_{eq} = 5.03 in.

V_j = 2421 f/s, h = 1.19 in.

REPEAT OF G 633





DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G-636	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

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1119

No. XY 1101

DATE: 4/30/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 513	
PLOT IDENTIFICATION : G-637	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

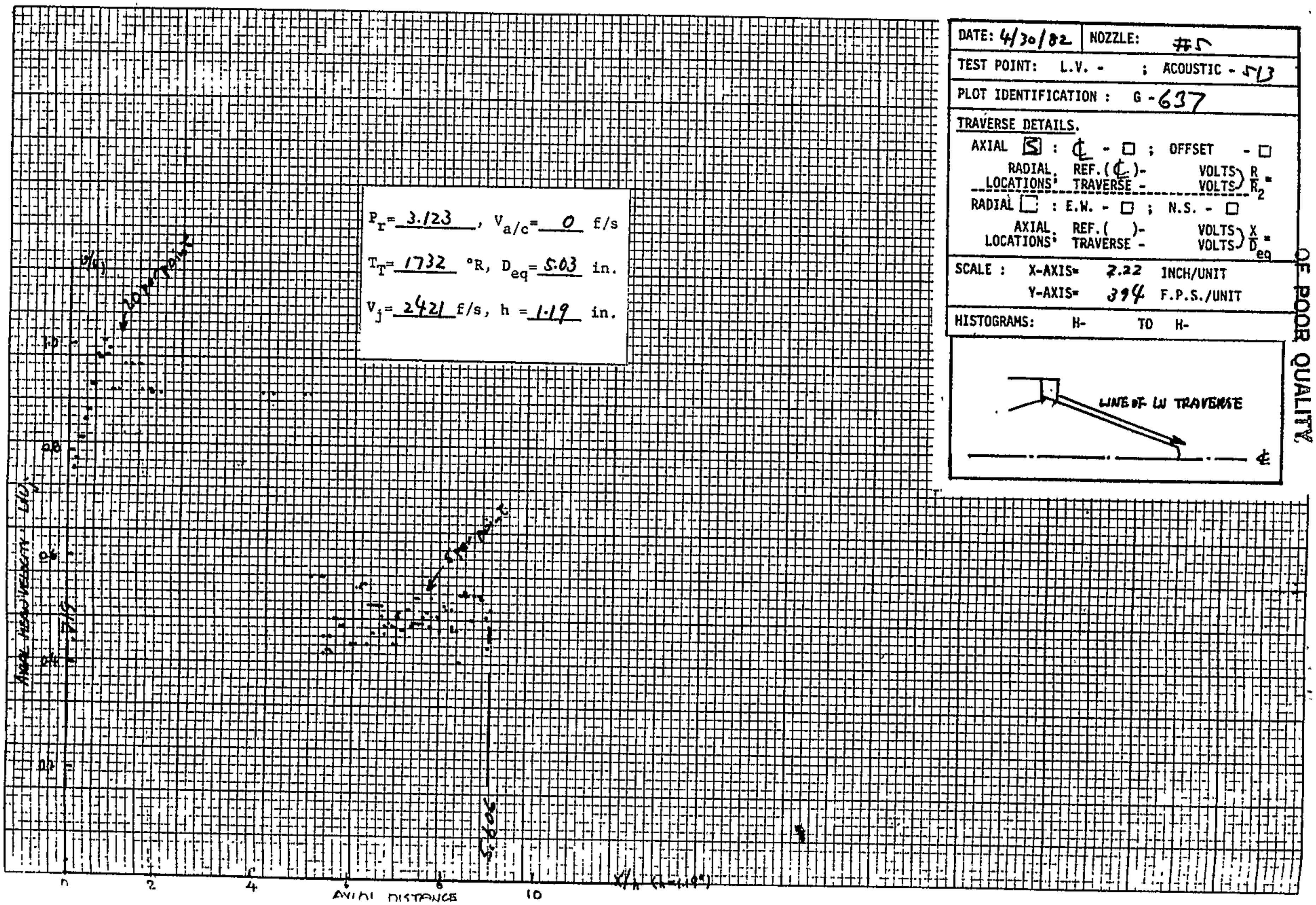
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

P_r = 3.123, $V_{a/c}$ = 0 f/s

T_T = 1732 °R, D_{eq} = 5.03 in.

V_j = 2421 f/s, h = 1.19 in.



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DATE: 5/3/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513	
PLOT IDENTIFICATION : G - 638	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 7.1 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

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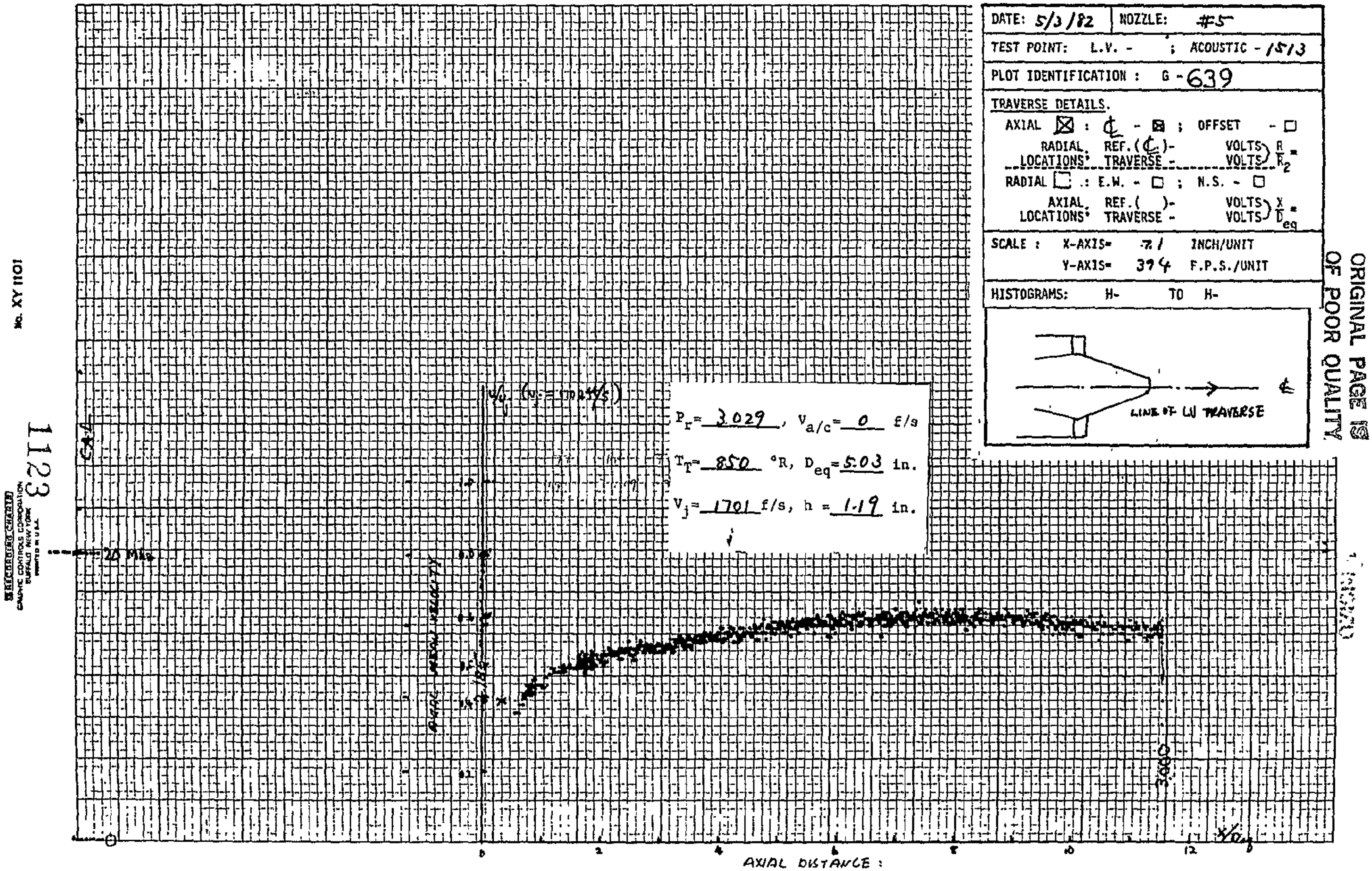
No. XY 1101

1122


DATE: 5/3/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513
PLOT IDENTIFICATION : G-639
TRAVERSE DETAILS.
AXIAL ; OFFSET
RADIAL LOCATIONS; REF. TRAVERSE - VOLTS
RADIAL ; E.W. ; N.S.
AXIAL LOCATIONS; REF. TRAVERSE - VOLTS
SCALE : X-AXIS= .71 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
P_r= 3.029, $V_{a/c}$= 0 f/s
T_T= 850 °R, D_{eq}= 5.03 in.
V_j= 1701 f/s, h = 1.19 in.
AXIAL MEAN VELOCITY
AXIAL DISTANCE :
20 MHz
1123
3600
No. XY 1101
ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/3/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513	
PLOT IDENTIFICATION : G - 640	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

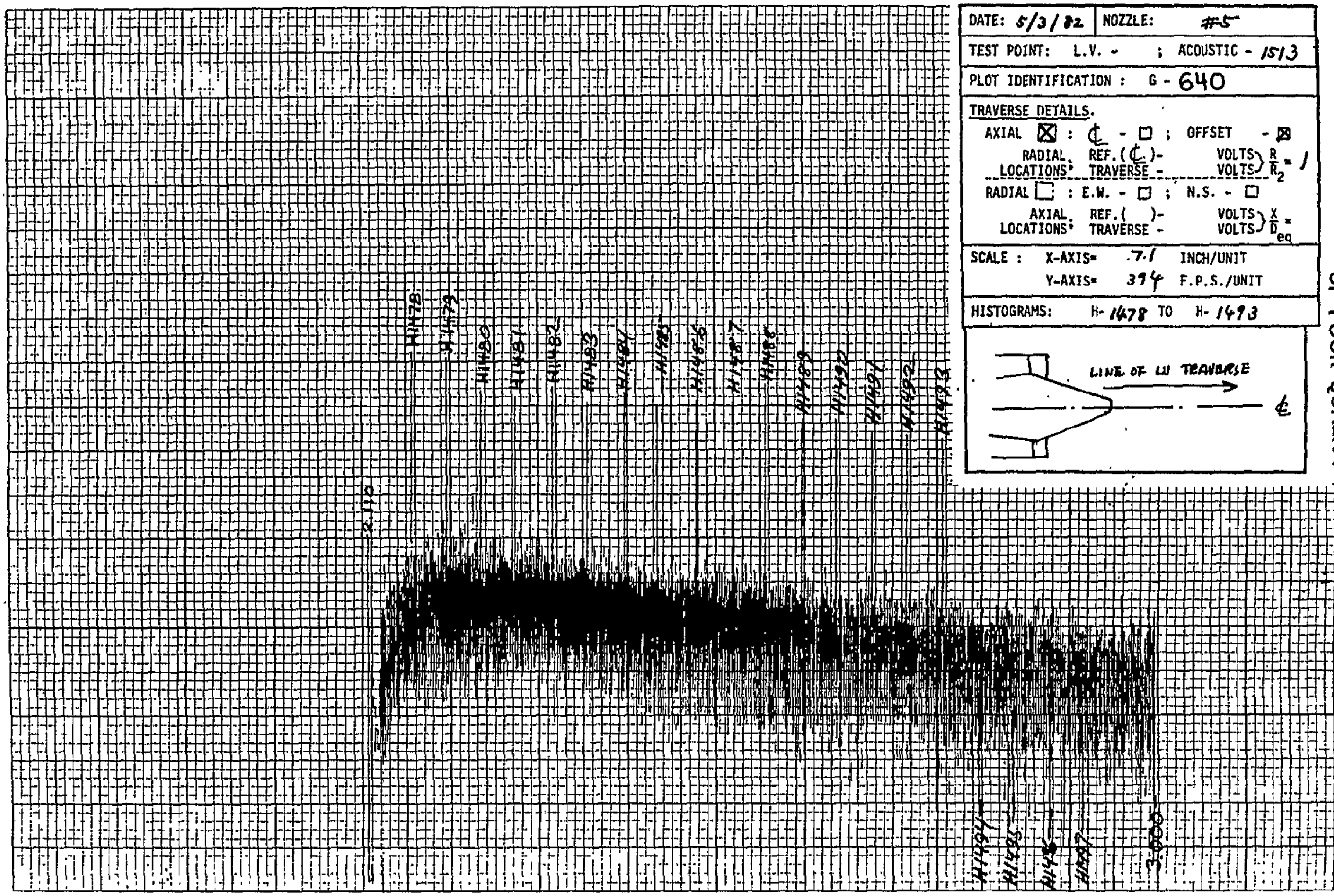
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= .71 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1478 TO H-1493



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1124

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1125

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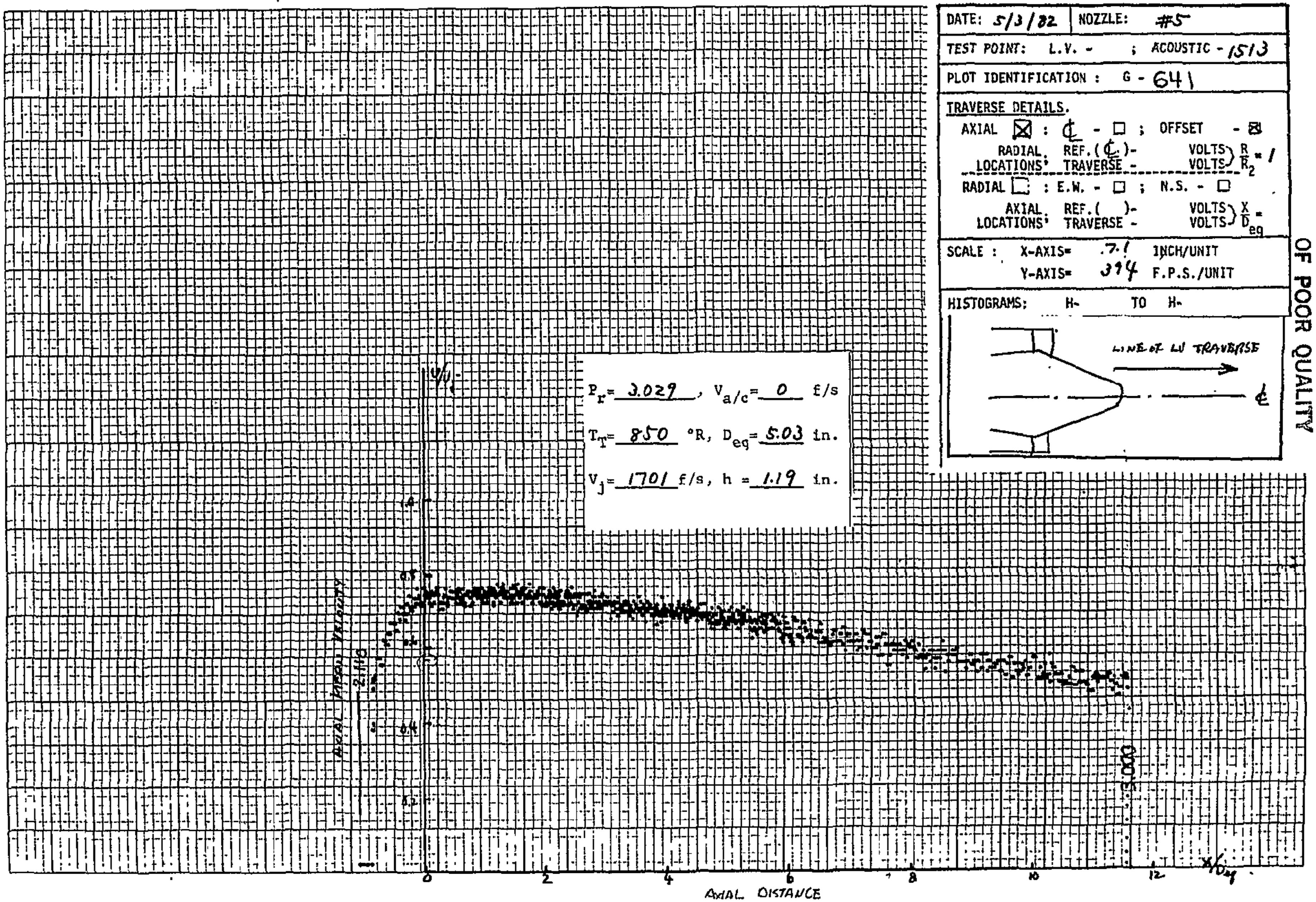

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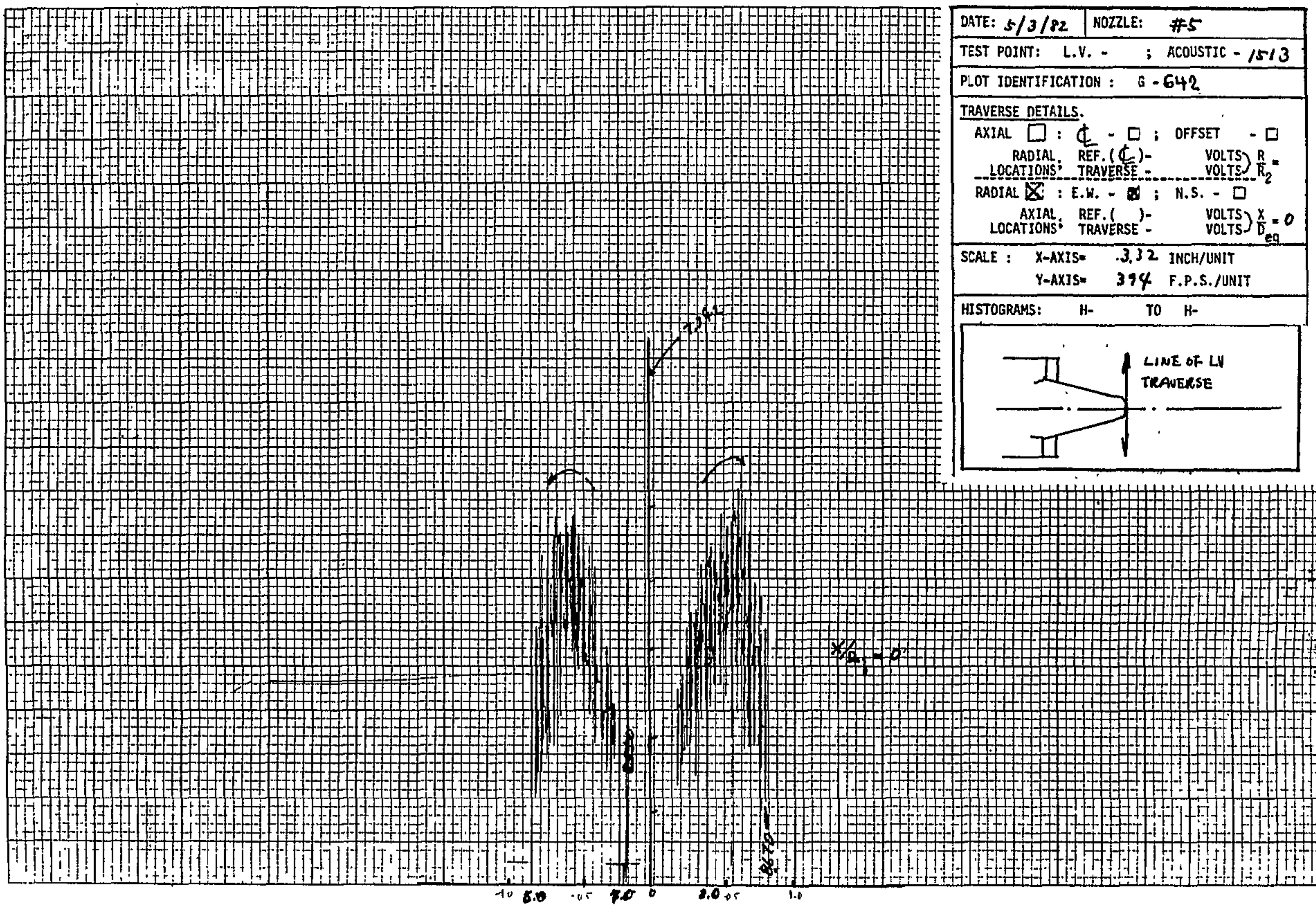
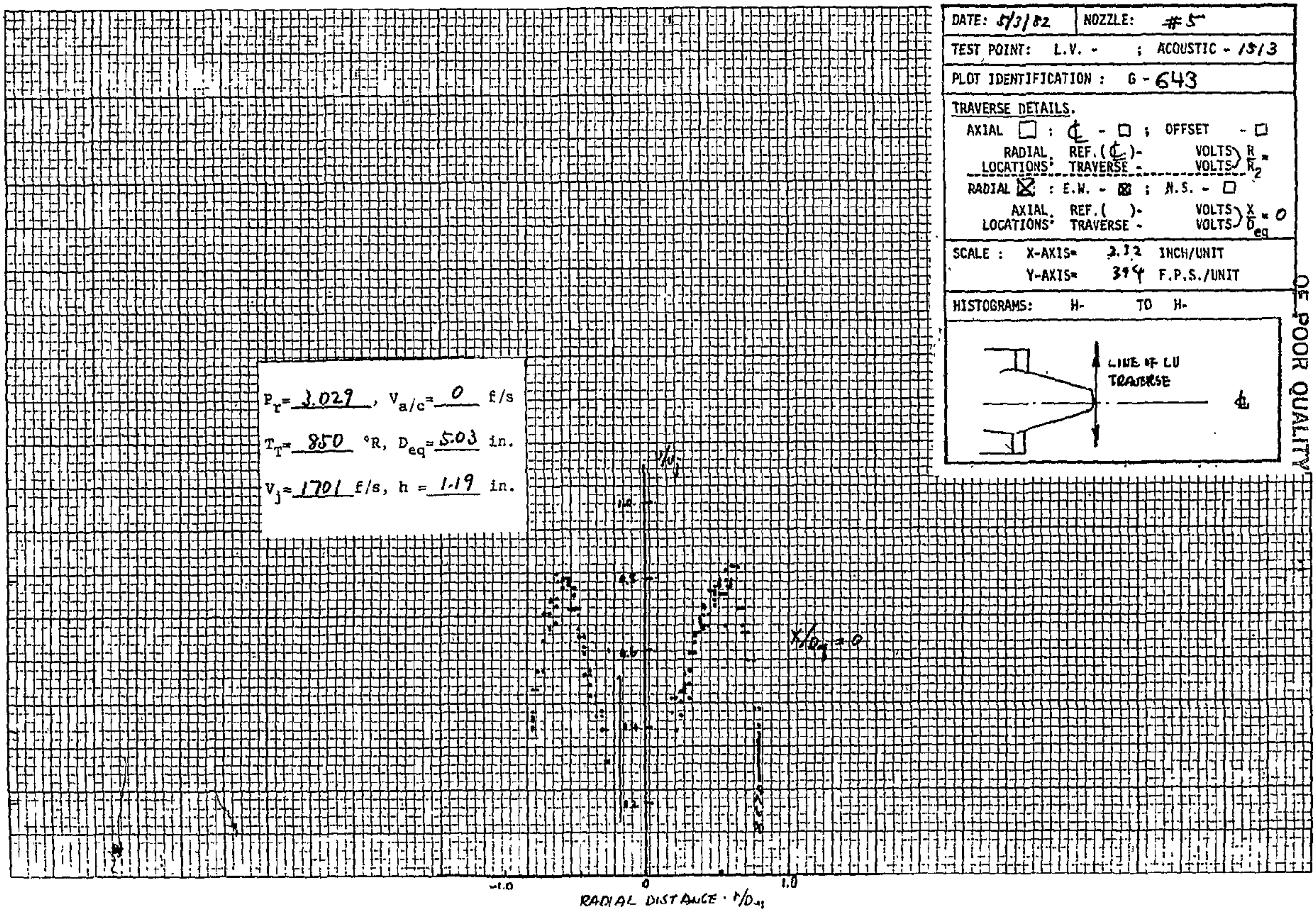
DATE: 5/3/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513	
PLOT IDENTIFICATION : G - 642	
TRAVERSE DETAILS.	
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐	
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =	
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐	
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ = 0	
SCALE : X-AXIS= .332 INCH/UNIT	
Y-AXIS= 394 F.P.S./UNIT	
HISTOGRAMS: H- TO H-	

LINE OF LV TRAVERSE





DATE: 5/3/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 643

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS* REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS* REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS = 2.12 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄

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1127

No. XY 1101

DATE: 5/3/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 644

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

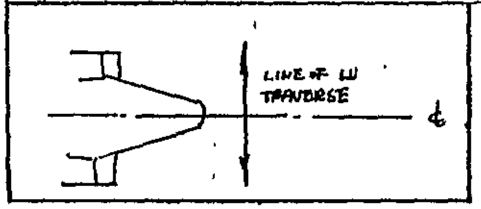
RADIAL ☒ : E.W. - ■ ; N.S. - ☐

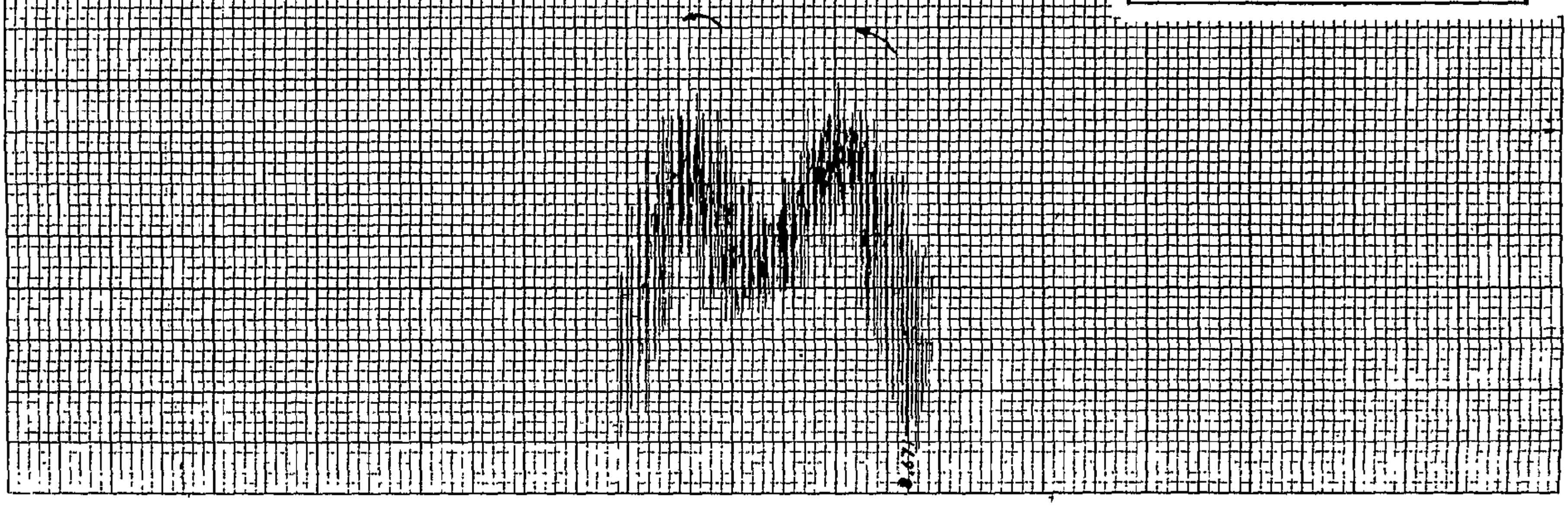
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 2

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





1128

DATE: 5/3/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 645

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 2

SCALE : X-AXIS= 3.32 INCH/UNIT

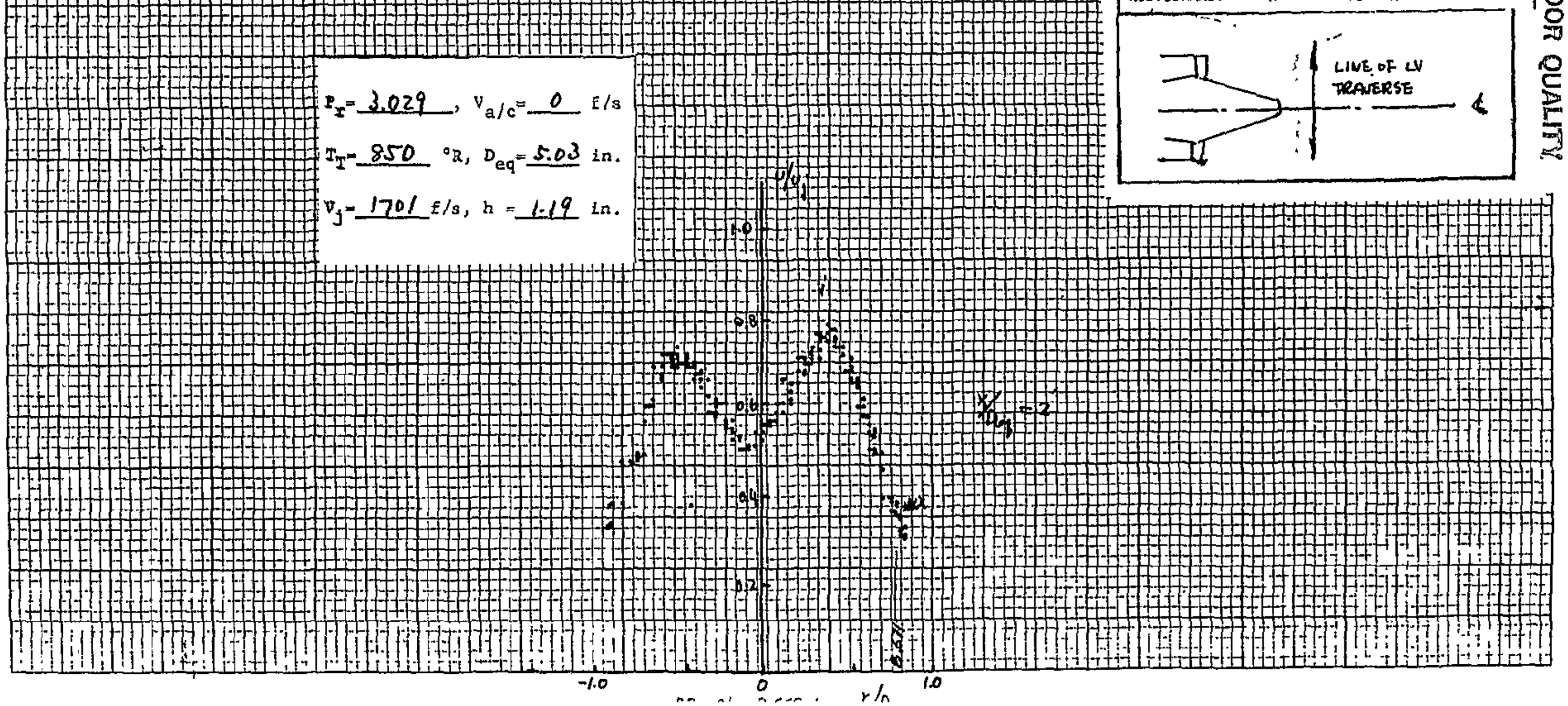
Y-AXIS= 394 F.P.S./UNIT

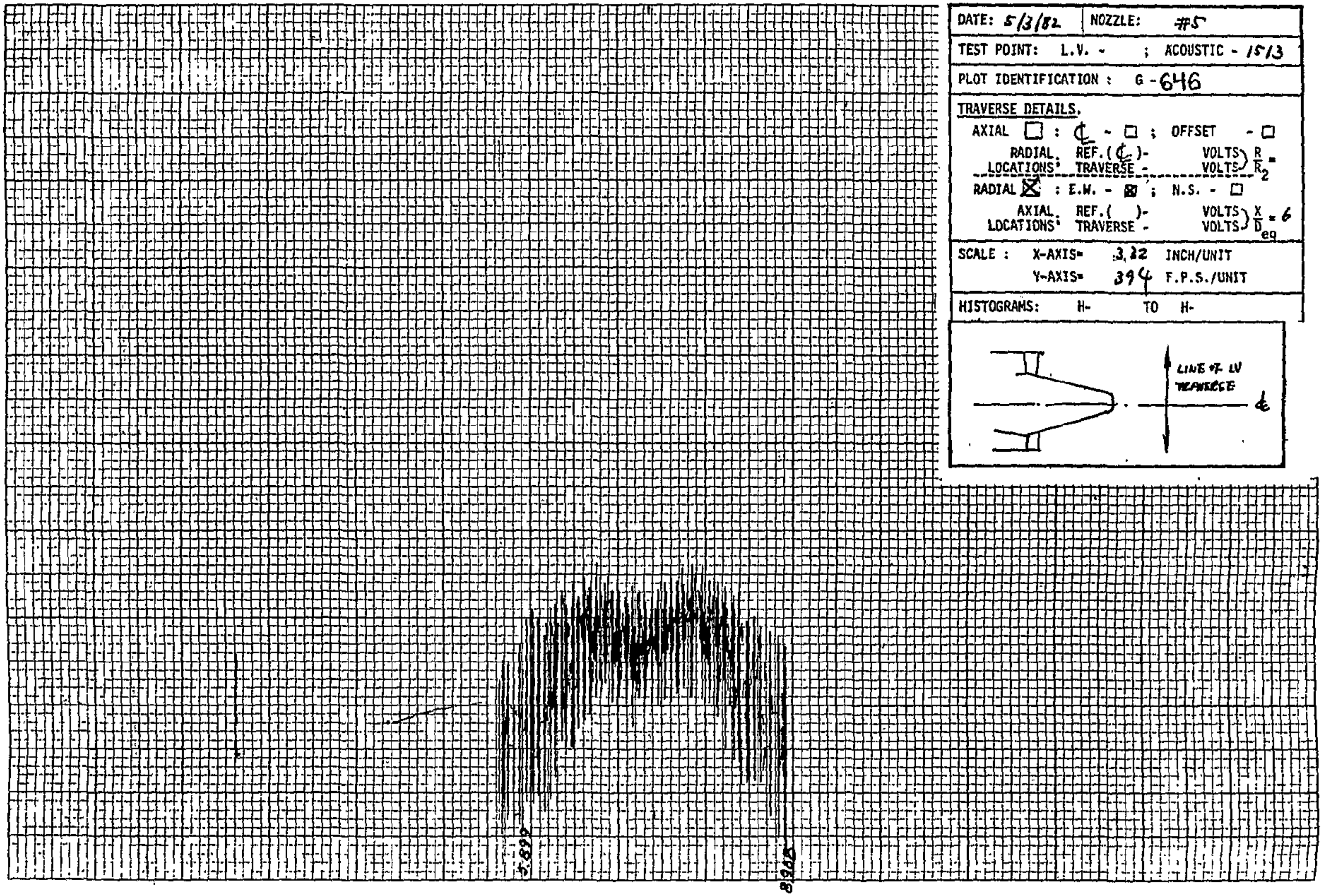
HISTOGRAMS: H- TO H-

P_r = 3.029, $V_{a/c}$ = 0 f/s

T_T = 850 °R, D_{eq} = 5.03 in.

V_j = 1701 f/s, h = 1.19 in.





DATE: 5/3/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 646

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

1130

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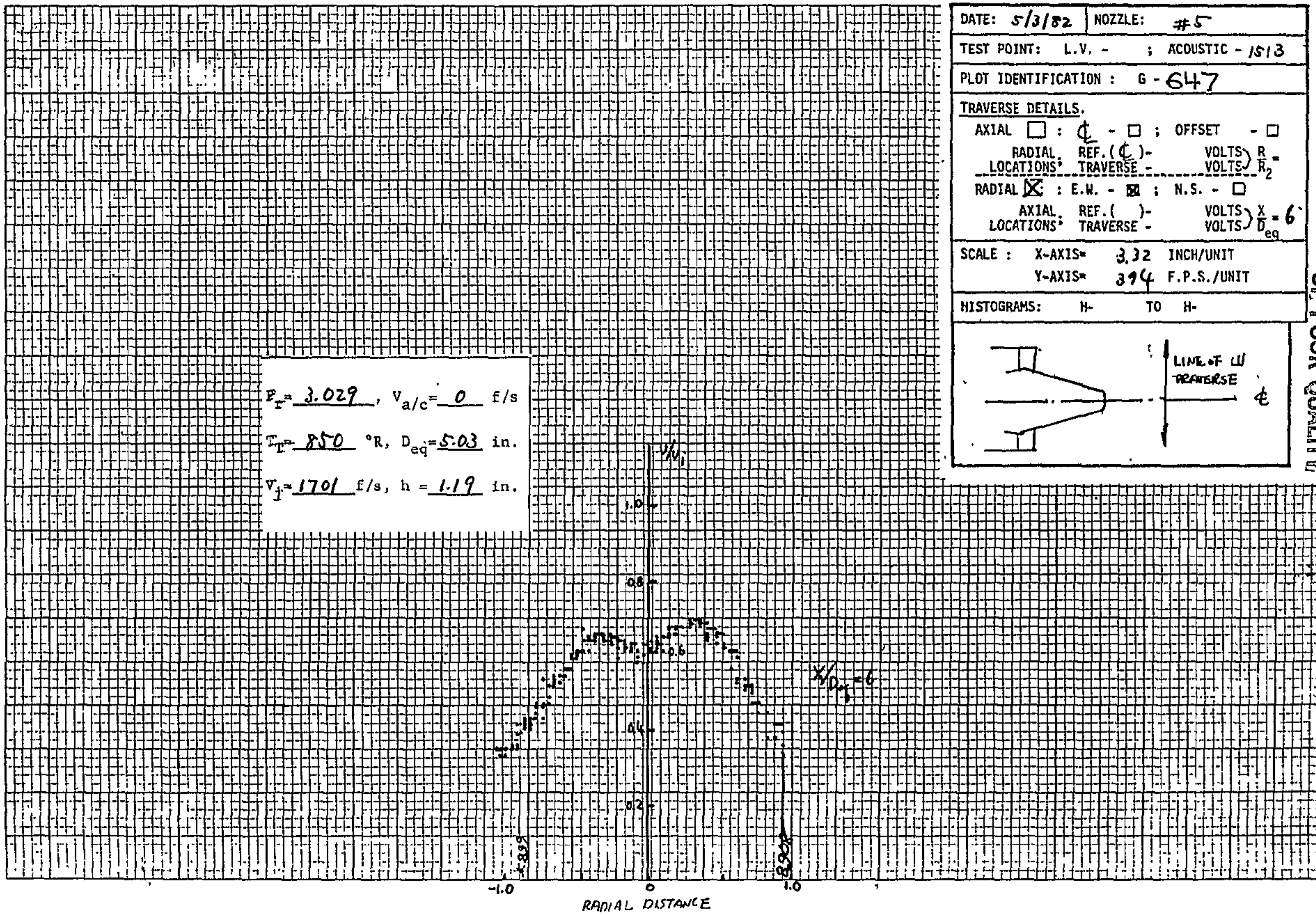

1131

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DATE: 5/3/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513	
PLOT IDENTIFICATION : G - 648	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

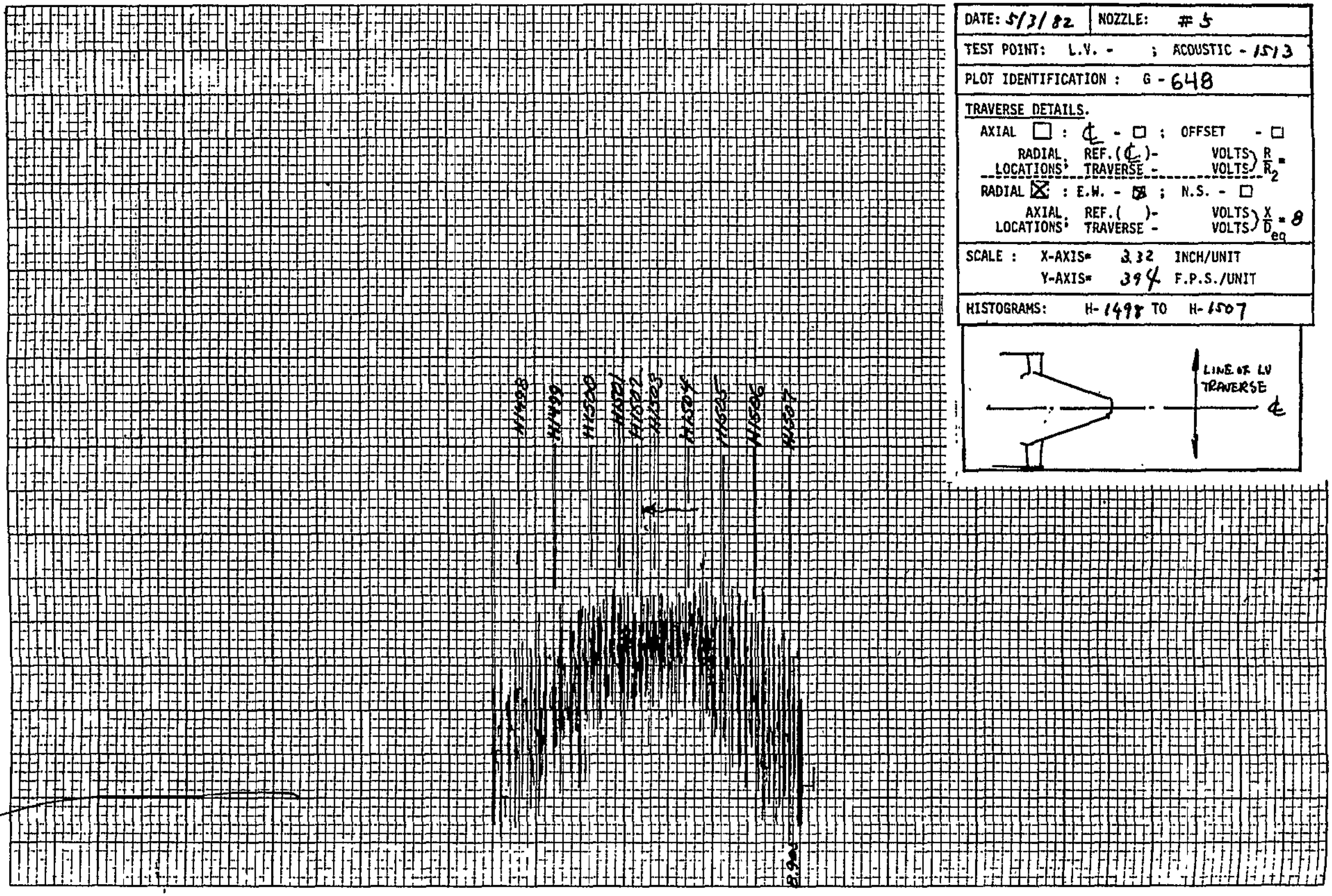
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8

SCALE : X-AXIS= 2.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1498 TO H-1507



1132

DATE: 5/3/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513	
PLOT IDENTIFICATION : G - 649	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

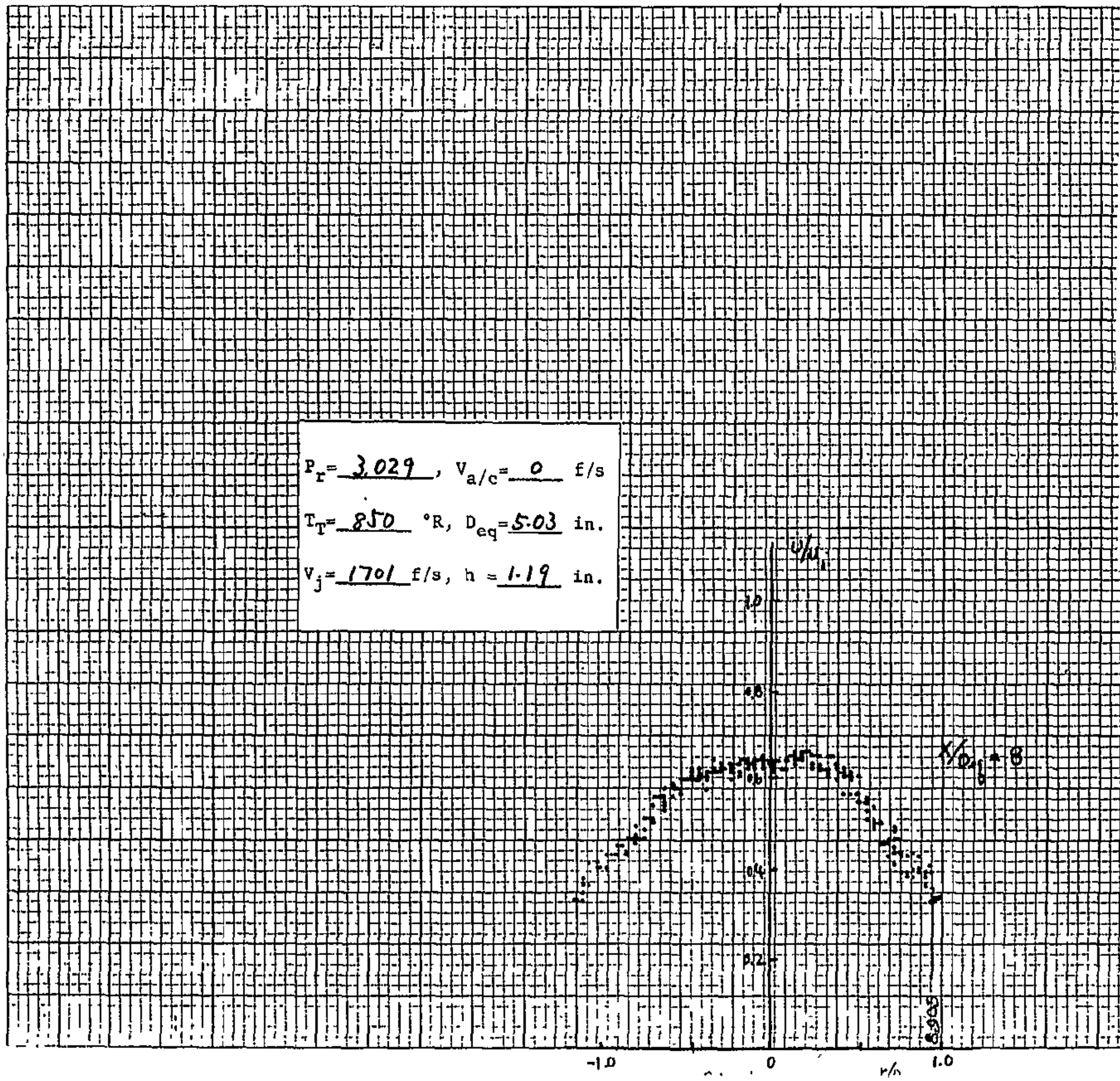
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8

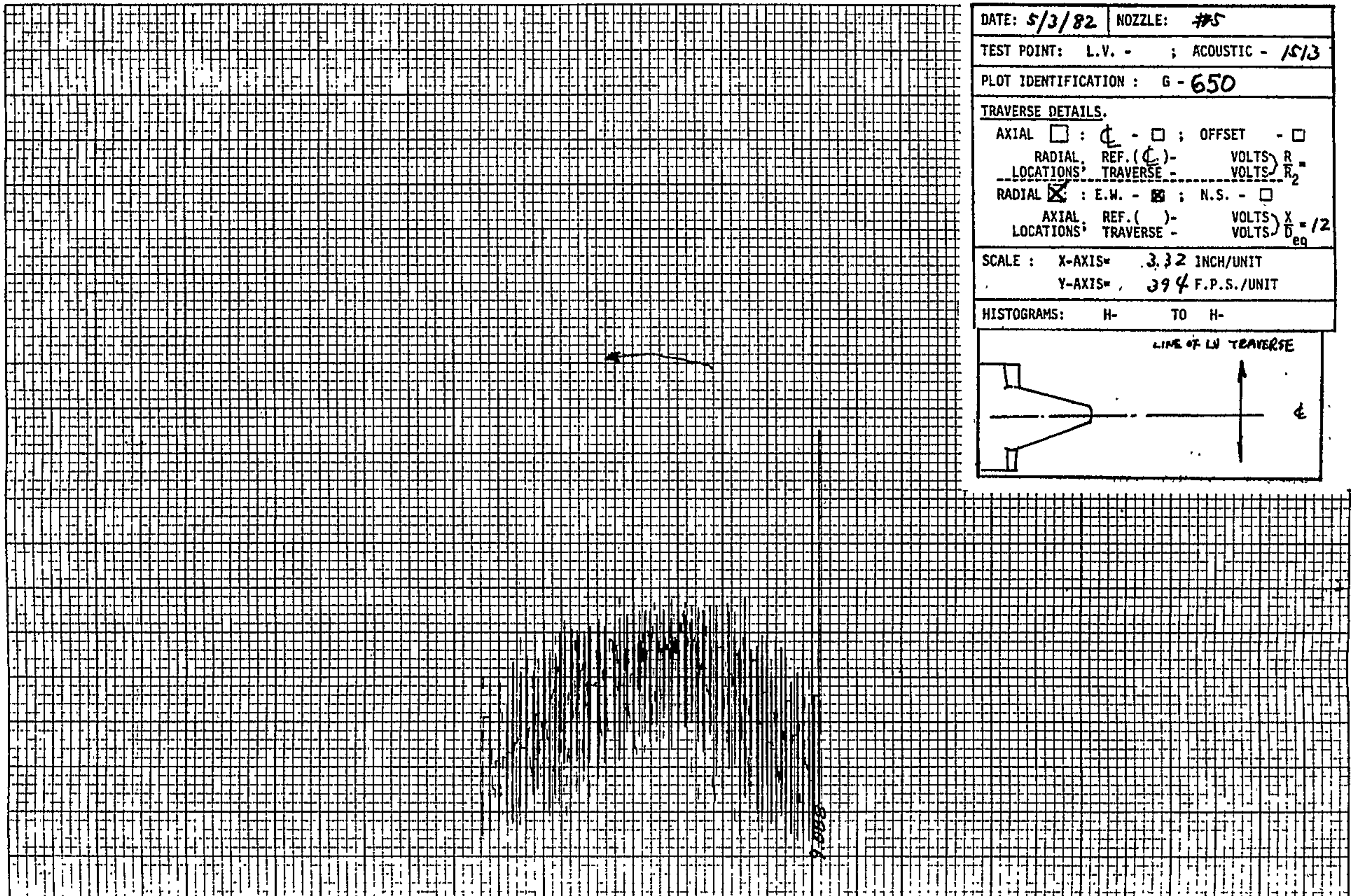
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄





1134

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DATE: 5/3/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 651

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$=

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 12

SCALE : X-AXIS= 3.32 INCH/UNIT

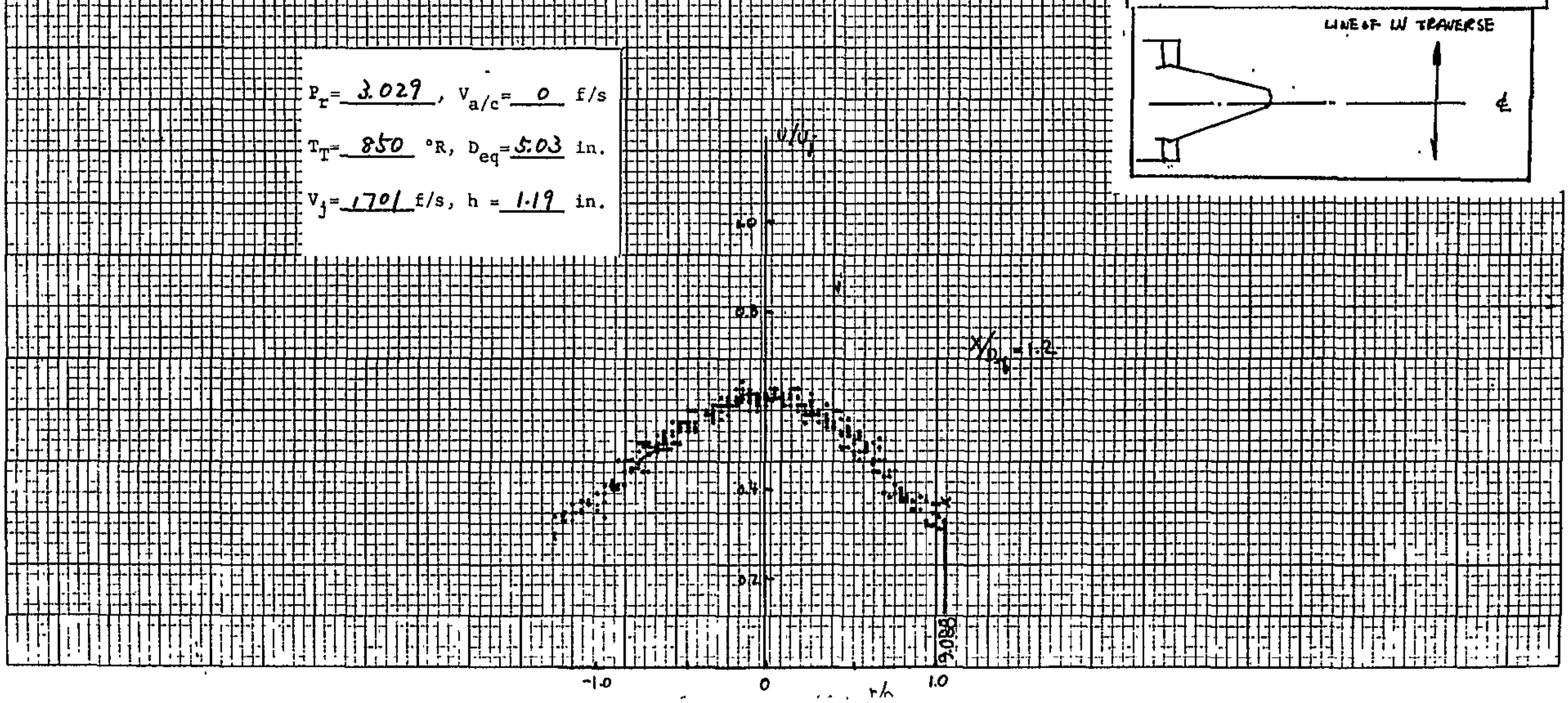
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

P_r= 3.029 , $V_{a/c}$= 0 f/s

T_T= 850 °R, D_{eq}= 5.03 in.

V_j= 1701 f/s, h = 1.19 in.



1135

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DATE: 5/4/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC -1513	
PLOT IDENTIFICATION : G-652	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

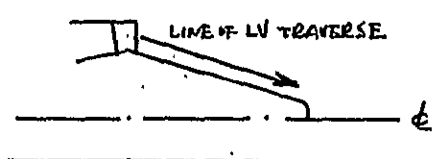
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

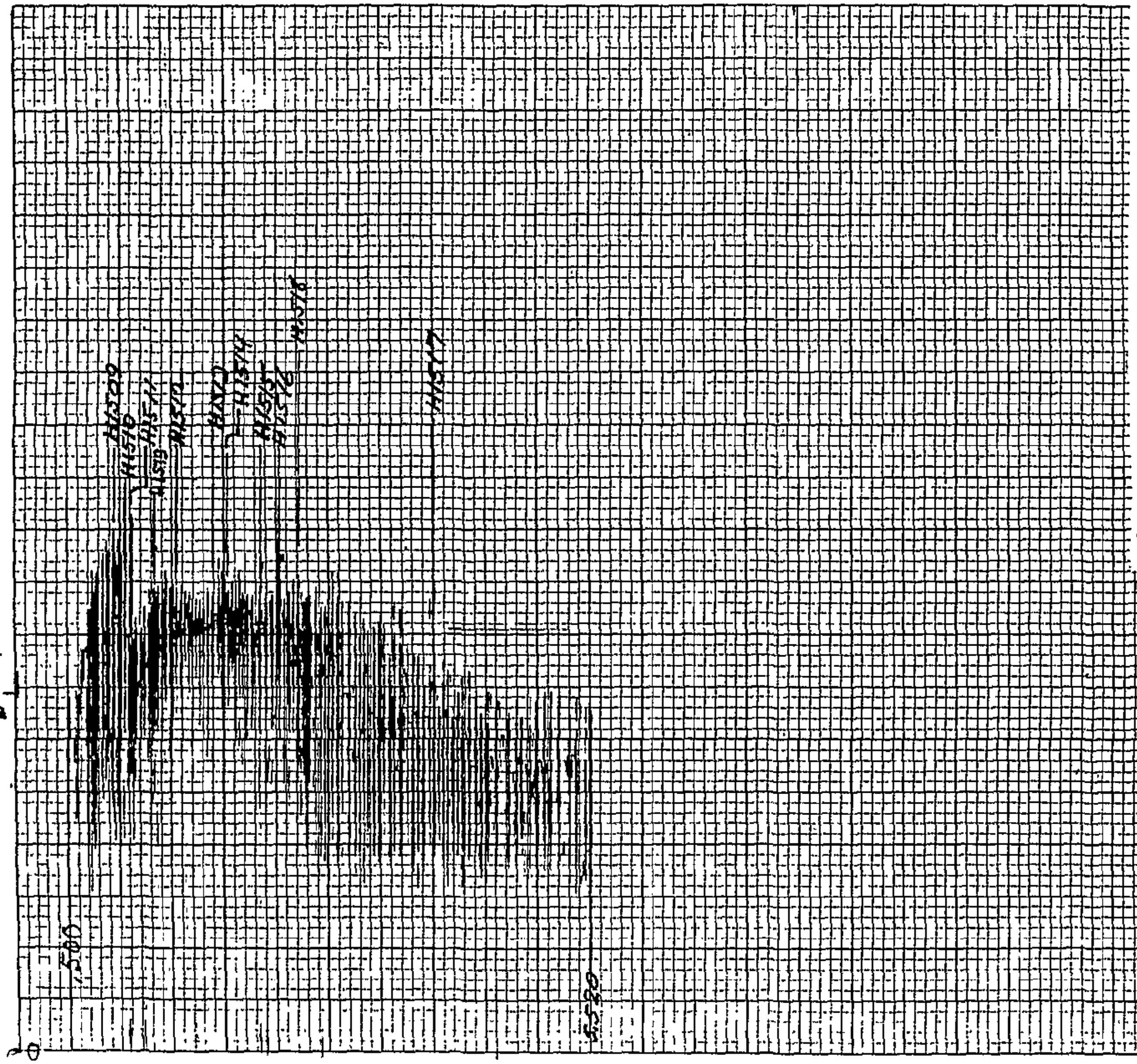
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H-1509 TO H-1519





1136

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/4/82 NOZZLE: # 5

TEST POINT: L.V. - ; ACOUSTIC -1513

PLOT IDENTIFICATION : G - 653

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS* REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$*

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS* REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$*

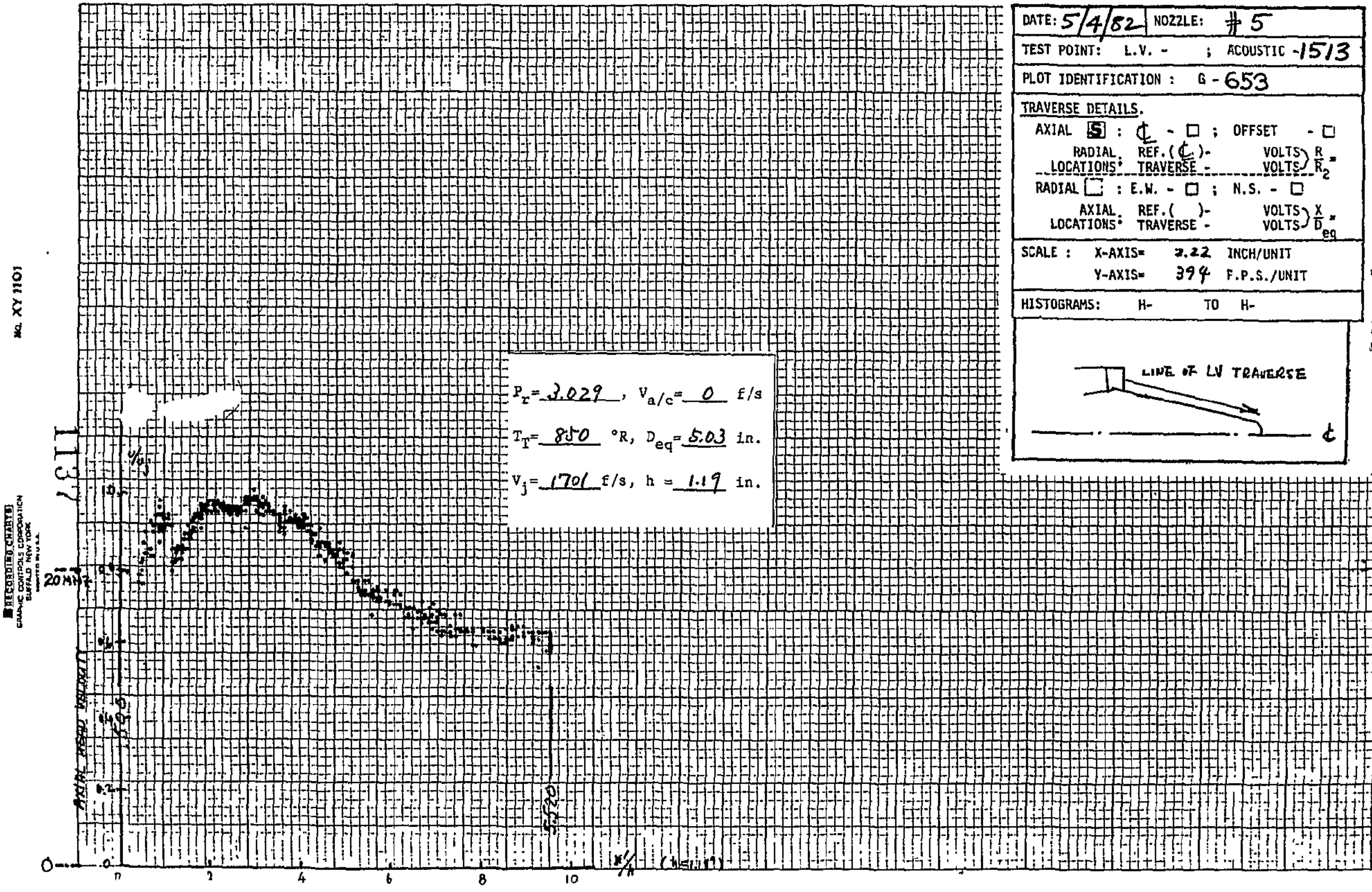
SCALE : X-AXIS= 2.22 INCH/UNIT

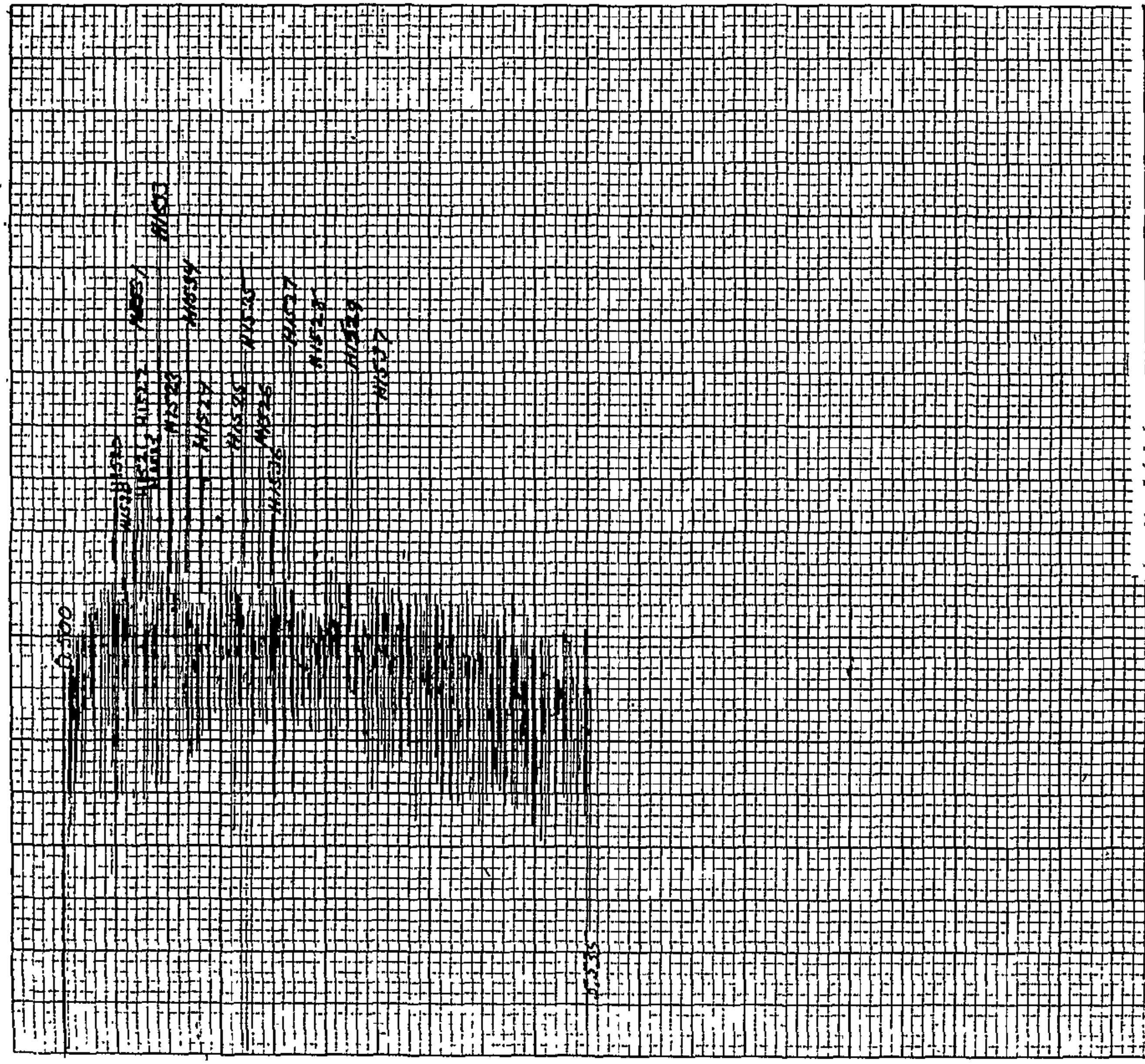
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄





DATE: 5/4/82	NOZZLE: # 5
TEST POINT: L.V. - ; ACOUSTIC -1513	
PLOT IDENTIFICATION : G - 654	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS) R/R_2 =

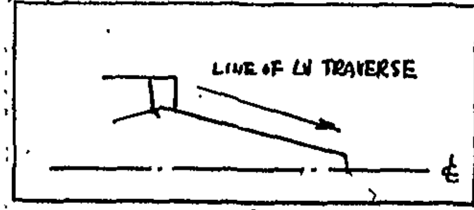
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS) X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= .394 F.P.S./UNIT

HISTOGRAMS: H- 1520 TO H- 1537



1138

NO. XY 1101

RECORDING CHARTS

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DATE: 5/4/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC -1513	
PLOT IDENTIFICATION : G - 655	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS } $\frac{R}{R_2}$ =

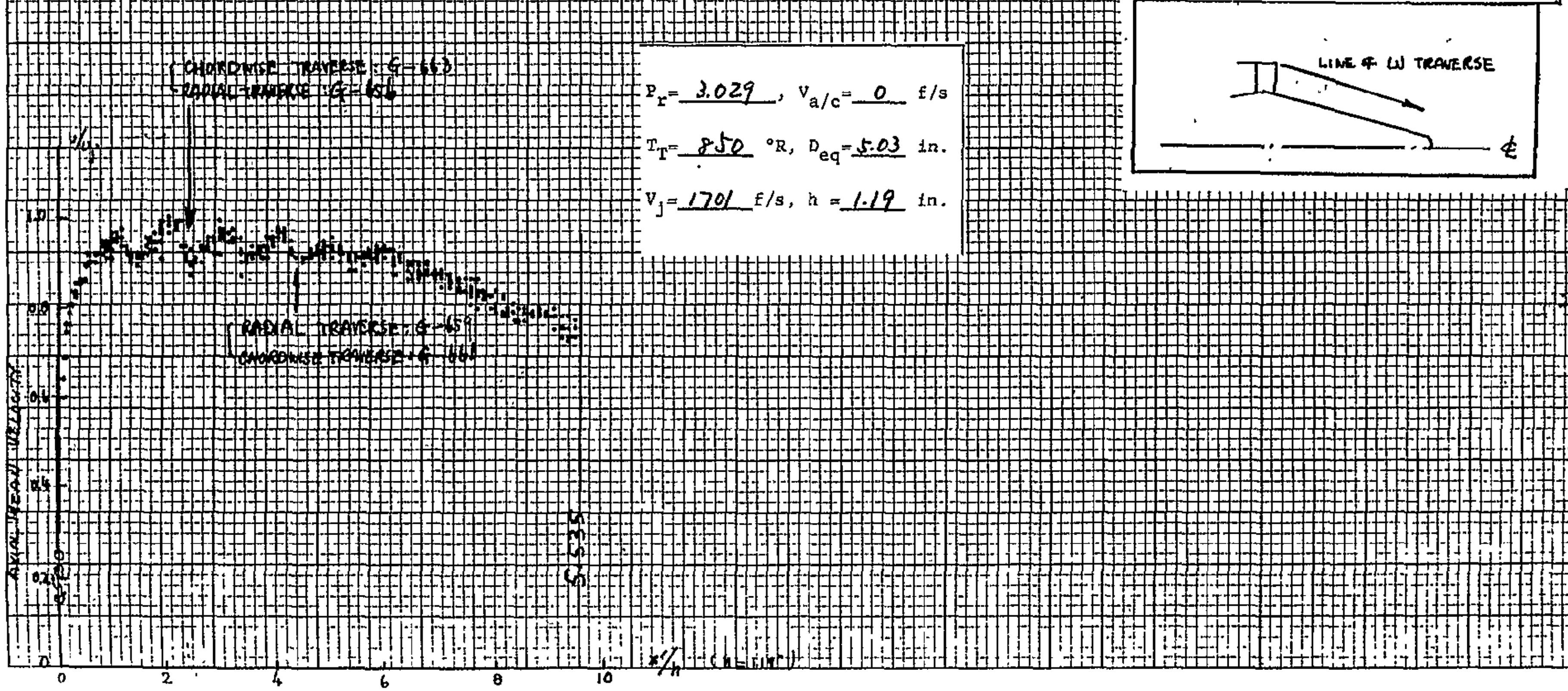
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1139

DATE: 5/4/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513	
PLOT IDENTIFICATION : G - 656	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

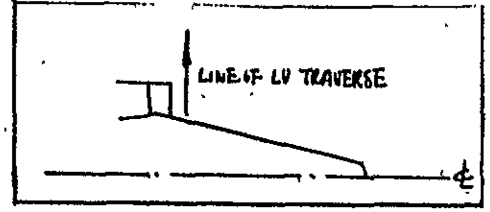
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

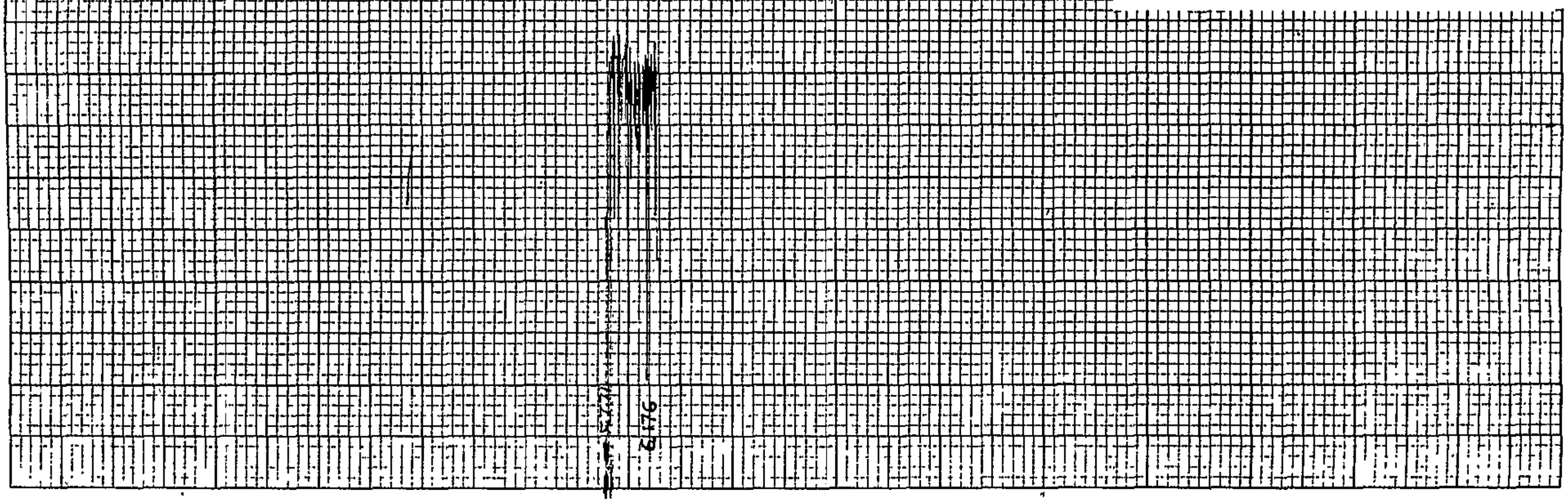
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





NO. XY 1101

1140

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/4/82	NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 657

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

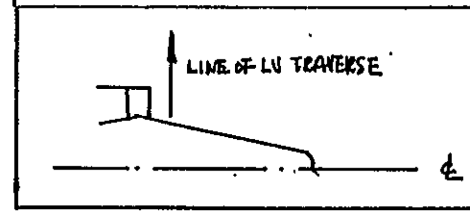
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

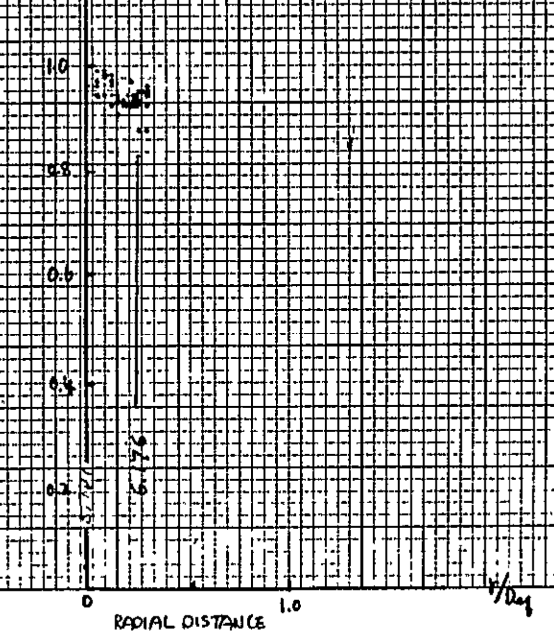
HISTOGRAMS: H- TO H-



P_r = 3.029 , $V_{a/c}$ = 0 f/s

T_T = 850 °R, D_{eq} = 5.03 in.

V_j = 1701 f/s, h = 1.19 in.



DATE: 5/4/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 658

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS } R/R_2 =

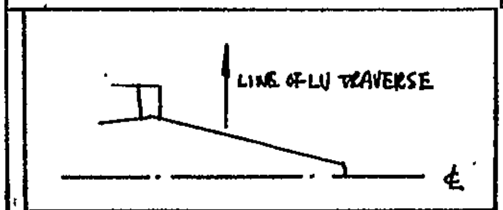
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

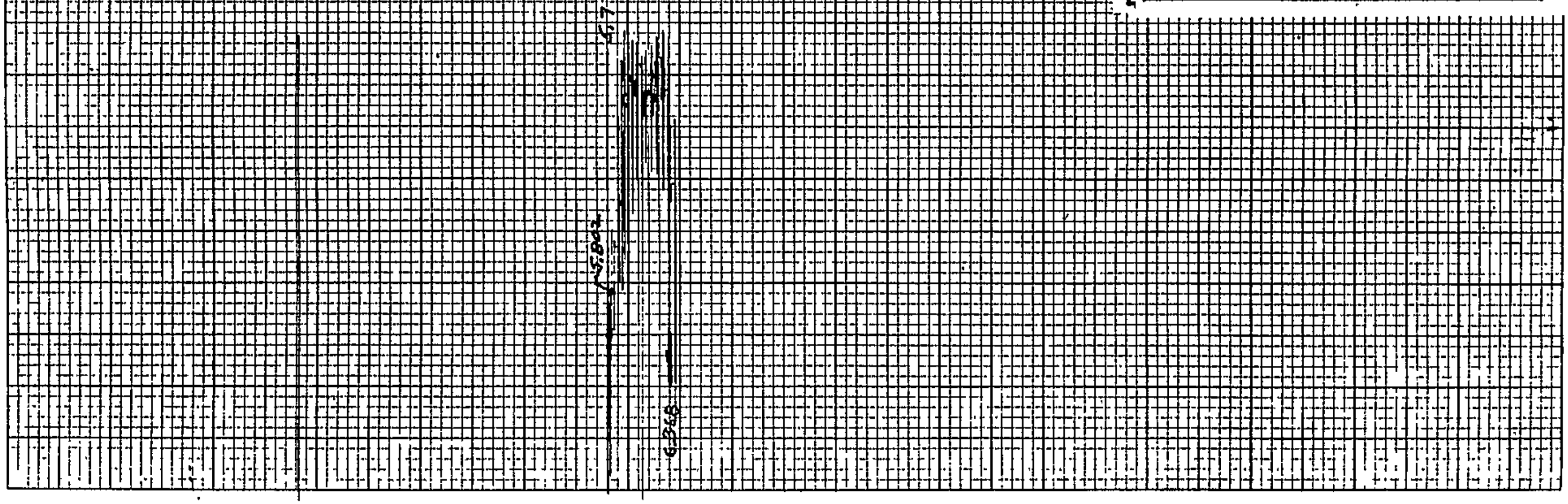
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS } X/D_{eq} =

SCALE : X-AXIS= .3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 5/4/82	NOZZLE: #5		
TEST POINT: L.V. - ; ACOUSTIC - 1513			
PLOT IDENTIFICATION : G - 659			

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

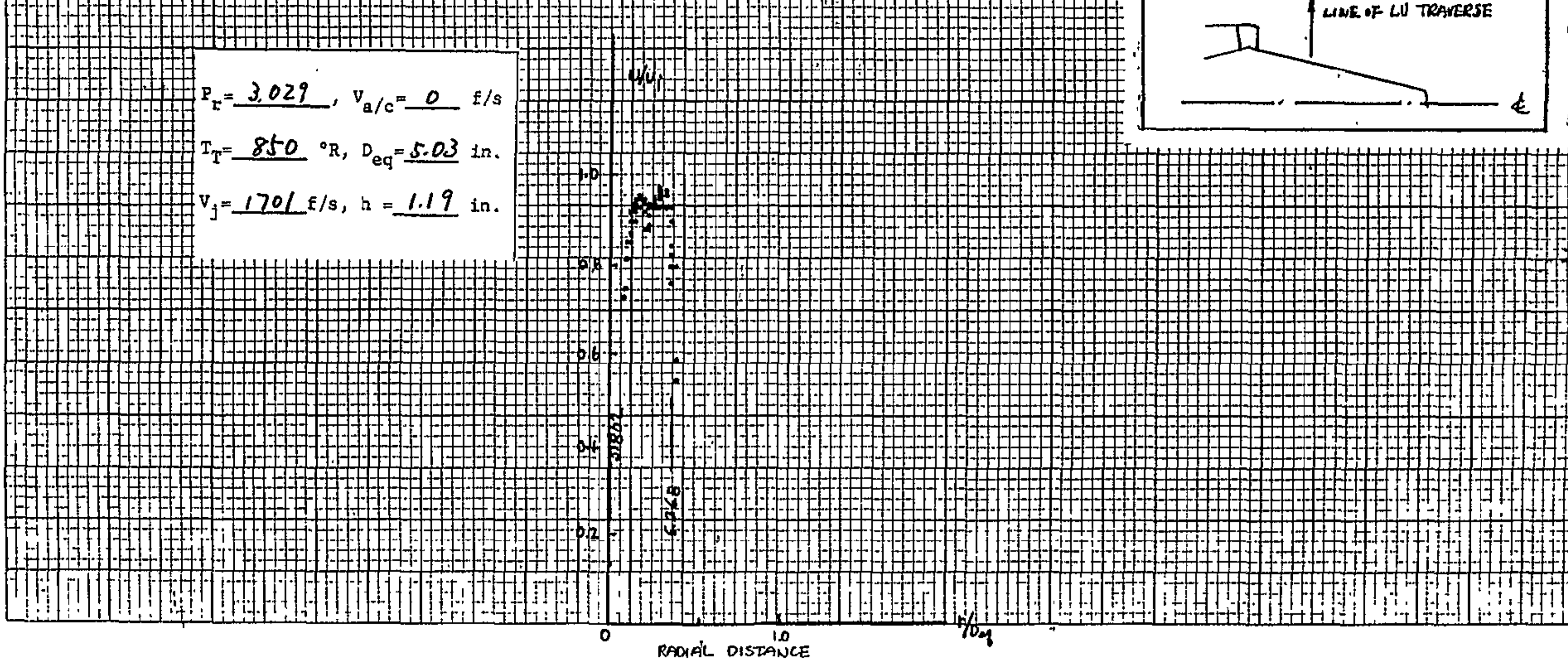
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

P_r = 3.029, $V_{a/c}$ = 0 f/s

T_T = 850 °R, D_{eq} = 5.03 in.

V_j = 1701 f/s, h = 1.19 in.



No. XY 1101

1143

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DATE: 5/4/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 660

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

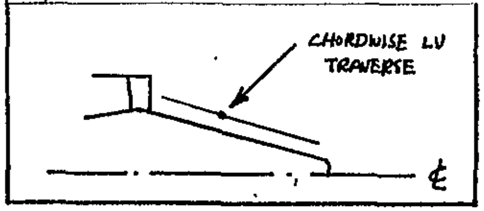
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

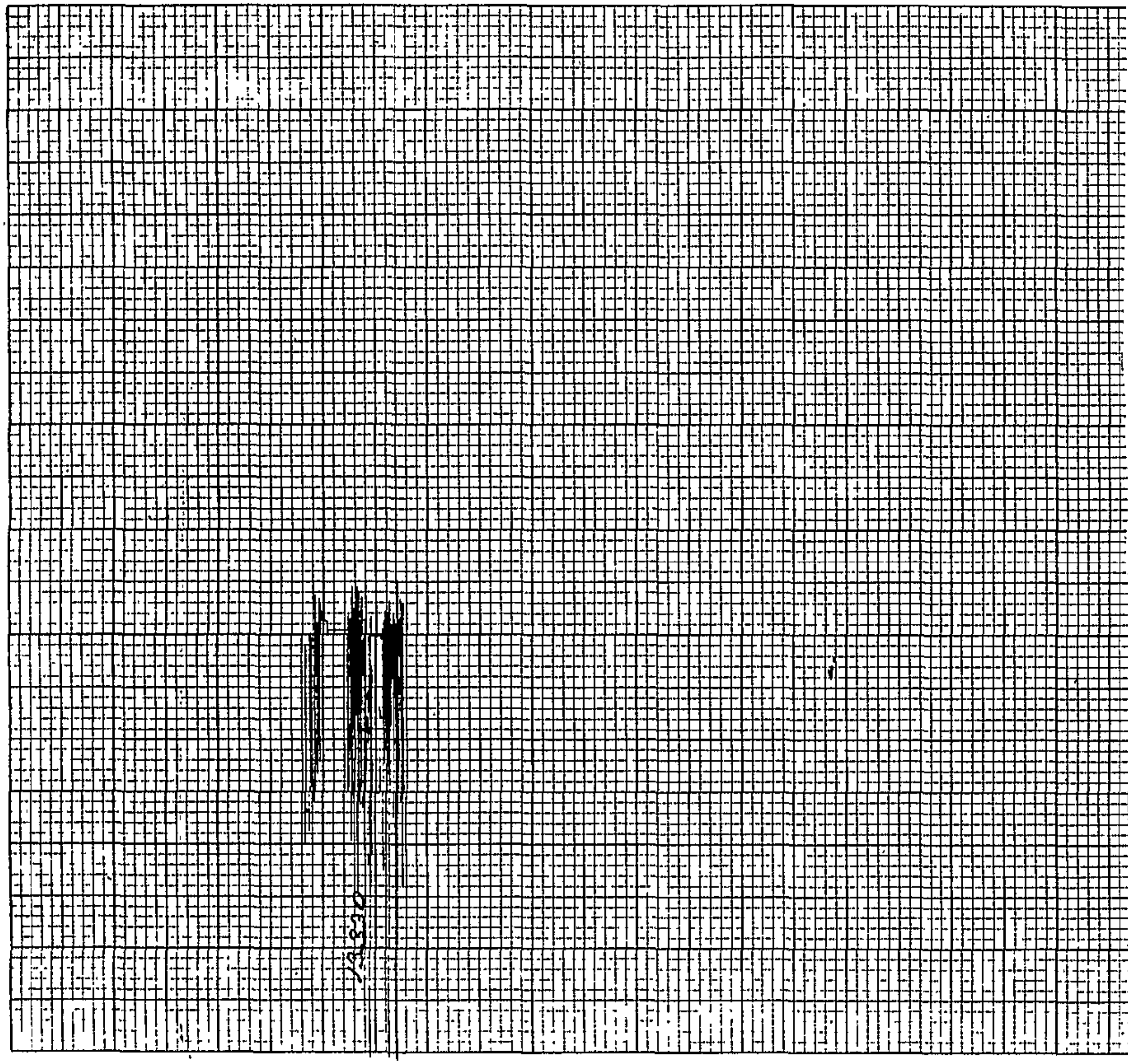
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





1144

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No. XY 1101

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1145

DATE: 5/4/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513	
PLOT IDENTIFICATION : G - 661	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

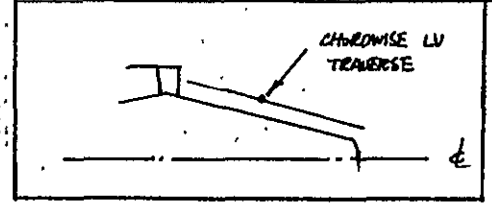
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

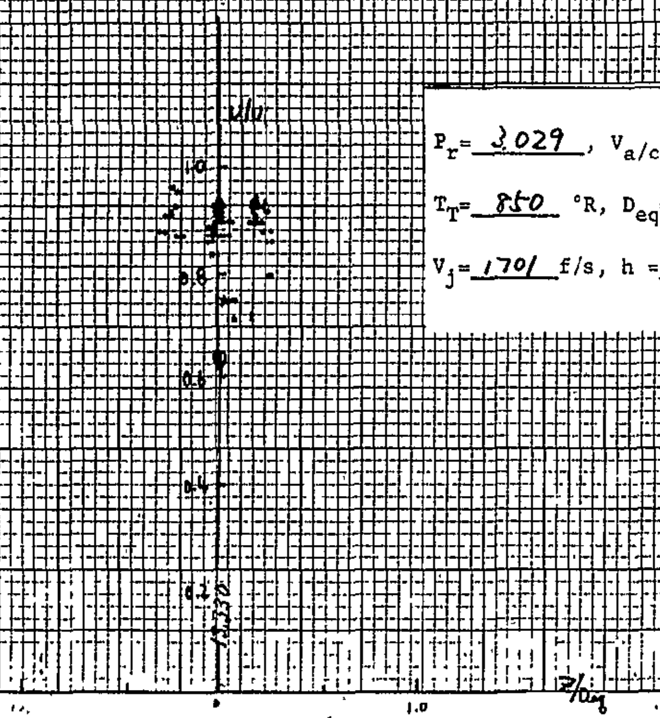
SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



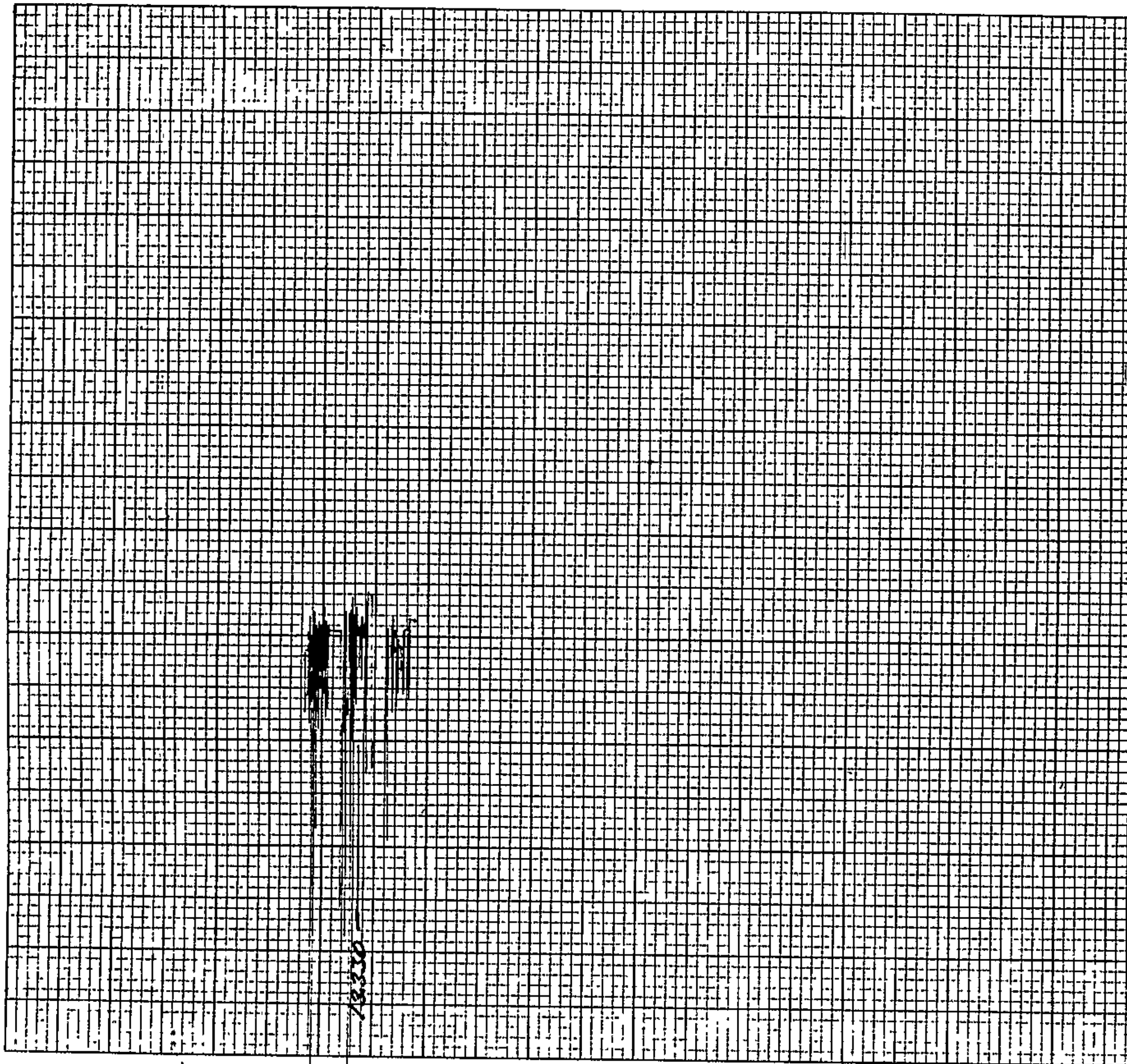
OF POOR QUALITY



P_r= 3.029 , $V_{a/c}$= 0 f/s

T_T= 850 °R, D_{eq}= 5.03 in.

V_j= 1701 f/s, h = 1.19 in.



DATE: 5/4/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 662

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

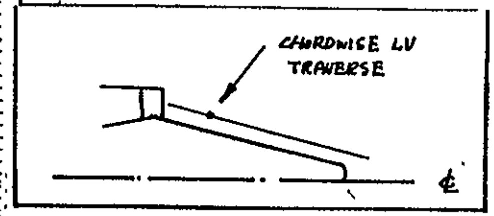
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 3.32 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



NO. XY 1101

1146

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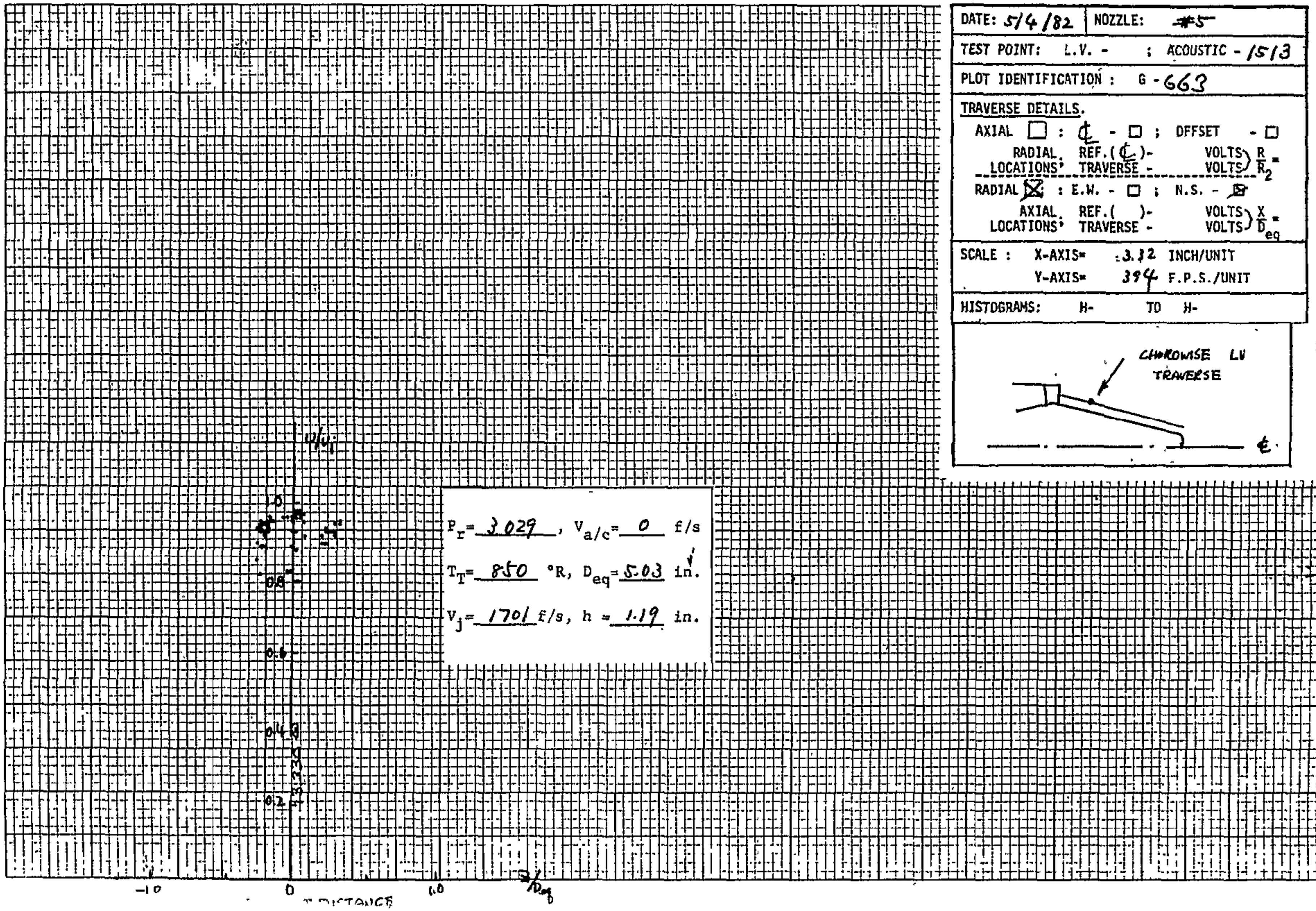

DATE: 5/4/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513
PLOT IDENTIFICATION : G - 663
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
CHORDWISE LV TRAVERSE
℄
P_r = 3.029 , $V_{a/c}$ = 0 f/s
T_T = 850 °R, D_{eq} = 5.03 in.
V_j = 1701 f/s, h = 1.19 in.
U/U_j
1.0
0.8
0.6
0.4
0.2
-1.0
0
1.0
DISTANCE
Z/D_{eq}

DATE: 5/4/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1513	
PLOT IDENTIFICATION : G - 664	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

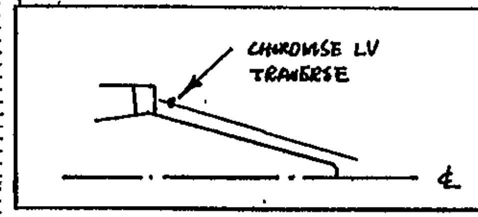
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

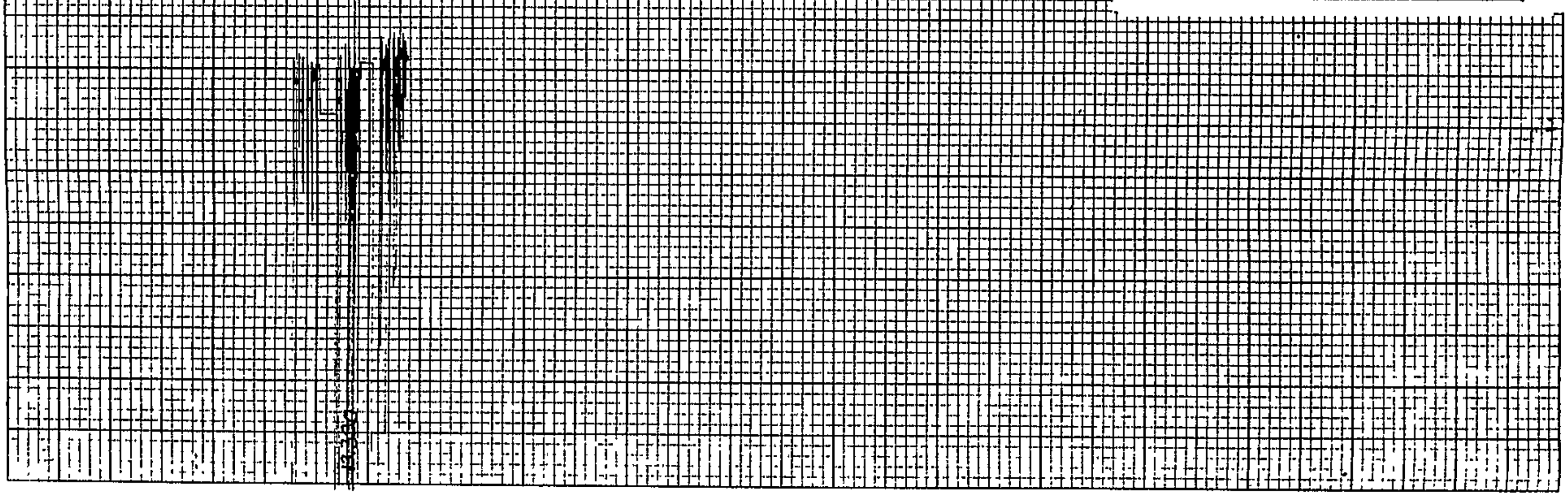
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





1148

No. XY 1101

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/4/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 665

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

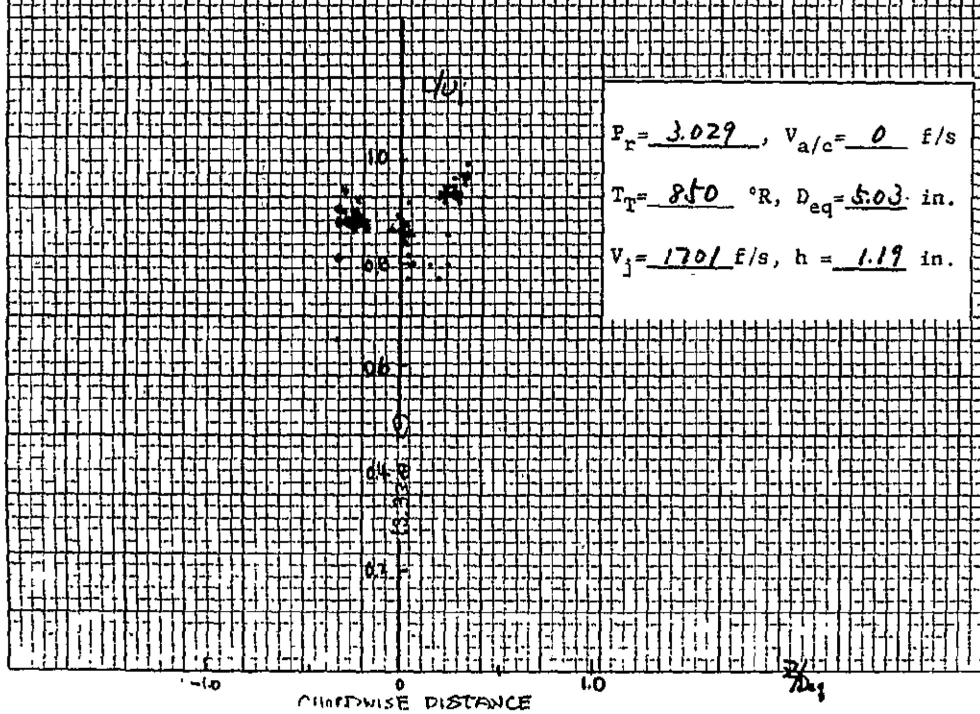
HISTOGRAMS: H- TO H-

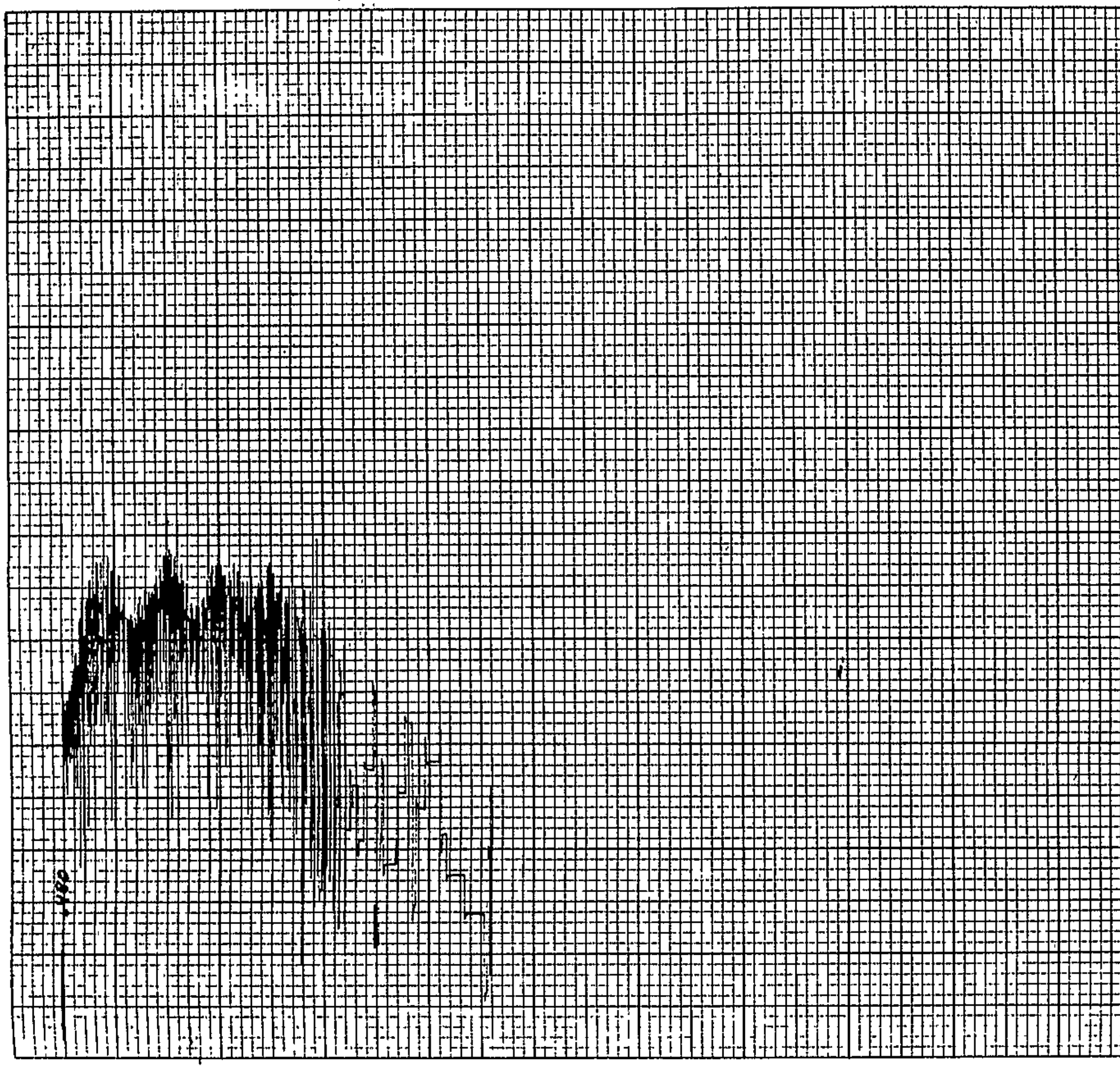
CHORDWISE LV TRAVERSE

P_r = 3.029 , $V_{a/c}$ = 0 f/s

T_T = 850 °R, D_{eq} = 5.03 in.

V_j = 1701 f/s, h = 1.19 in.





DATE: 5/5/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1513

PLOT IDENTIFICATION : G - 666

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)-7.292 VOLTS, TRAVERSE -8.688 VOLTS } $\frac{R}{R_2}$ =

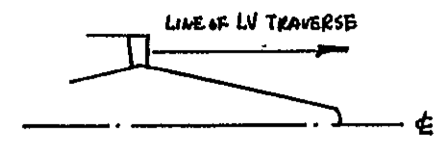
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- VOLTS, TRAVERSE - VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.1 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1150

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/5/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC -1513	
PLOT IDENTIFICATION : G-667	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF. (℄) -7.292 VOLTS; TRAVERSE -8.688 VOLTS; $\frac{R}{R_2}$ =

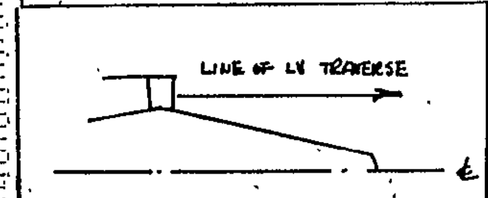
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.1 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

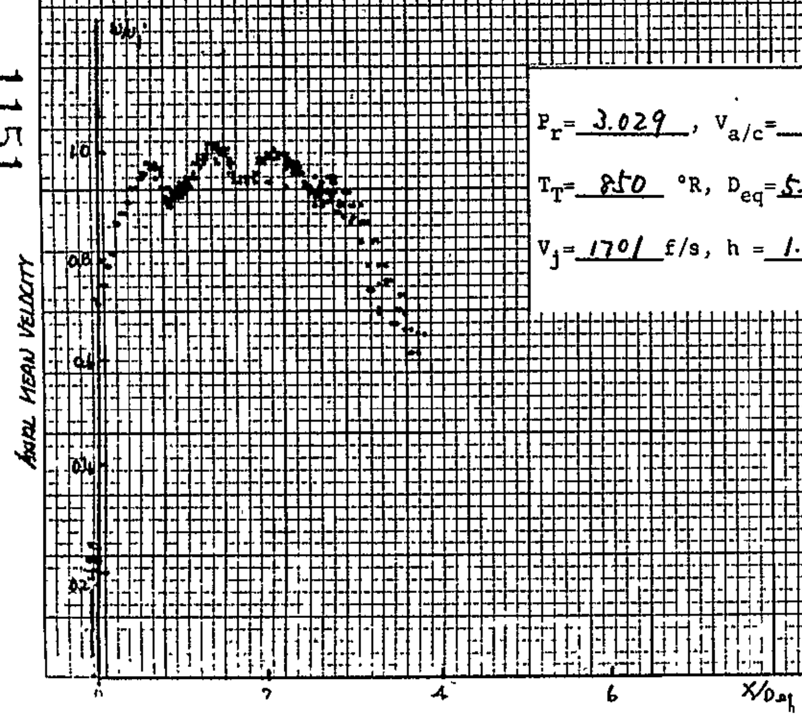
HISTOGRAMS: H- TO H-



P_r = 3.029, $V_{a/c}$ = 0 f/s

T_T = 850 °R, D_{eq} = 5.03 in.

V_j = 1701 f/s, h = 1.19 in.



1151

NO. XY 1101

RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK PRINTED IN U.S.A.

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/5/82	NOZZLE: # 5
TEST POINT: L.V. - ; ACOUSTIC -1514	
PLOT IDENTIFICATION : G - 668	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) -7.228 VOLTS; TRAVERSE -7.228 VOLTS; $\frac{R}{R_2} = 0$

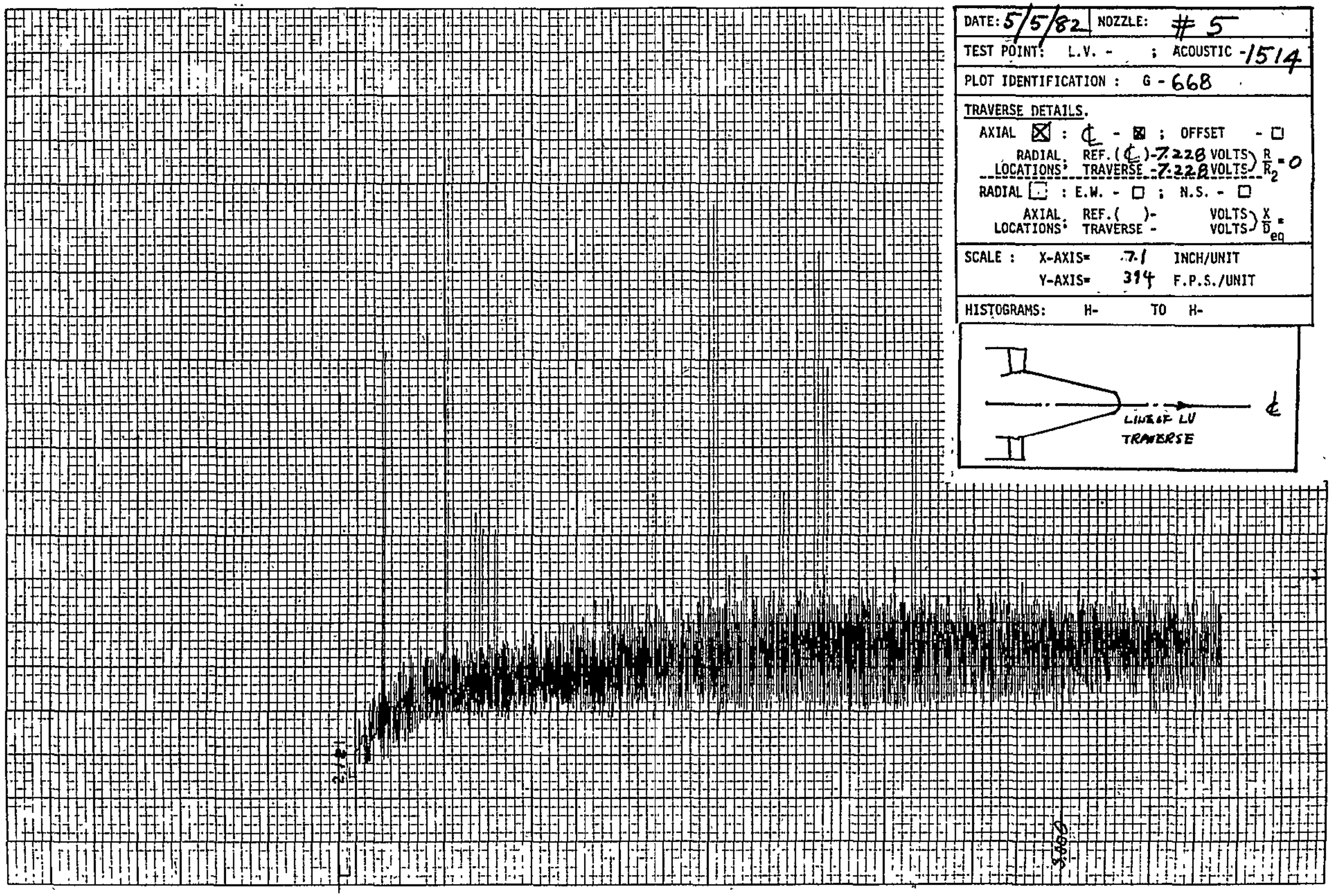
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= .7.1 INCH/UNIT

Y-AXIS= 314 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1153

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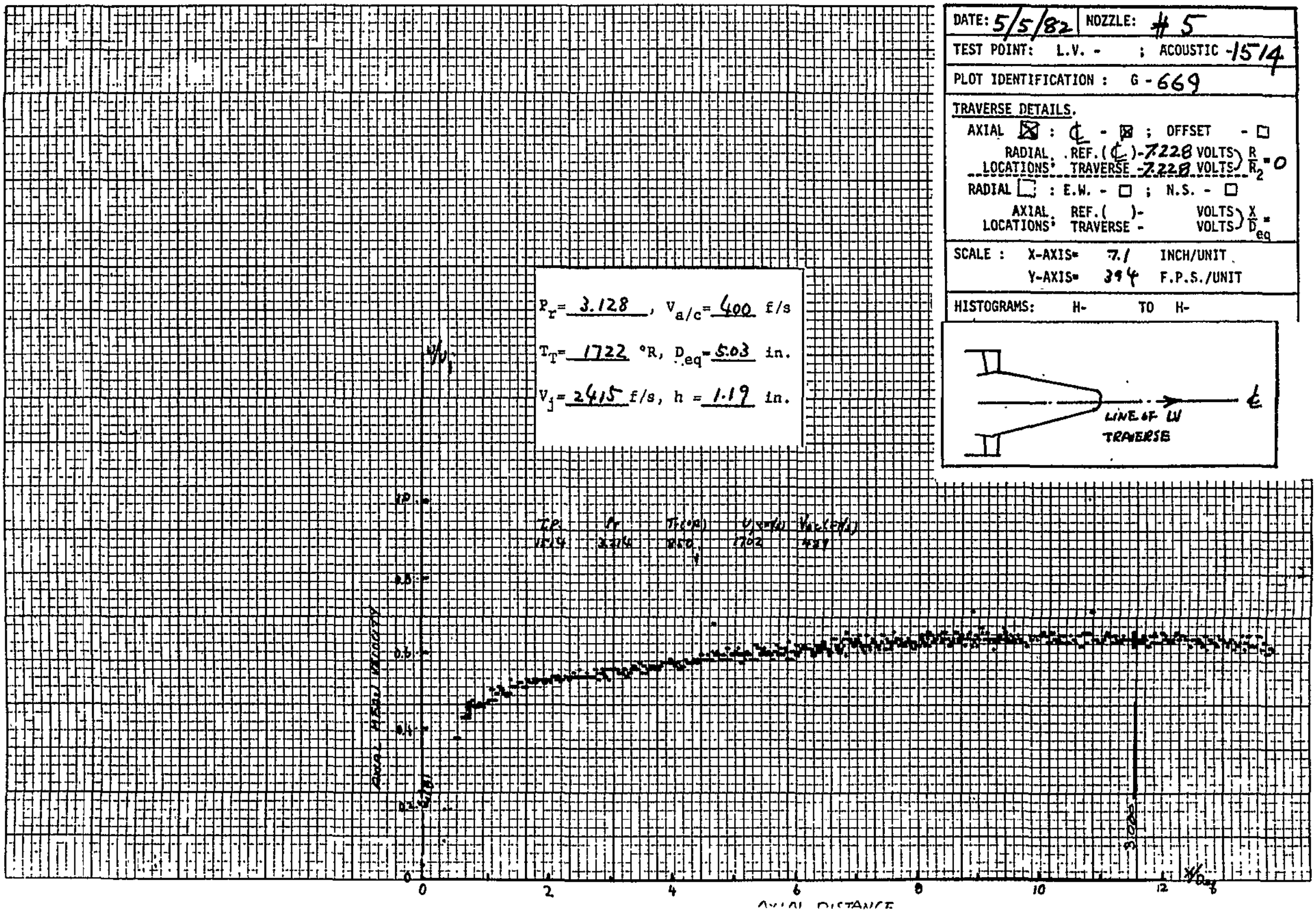
OF POOR QUALITY



NO. XY 1011

1154

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/5/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - NT4

PLOT IDENTIFICATION : G-670

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

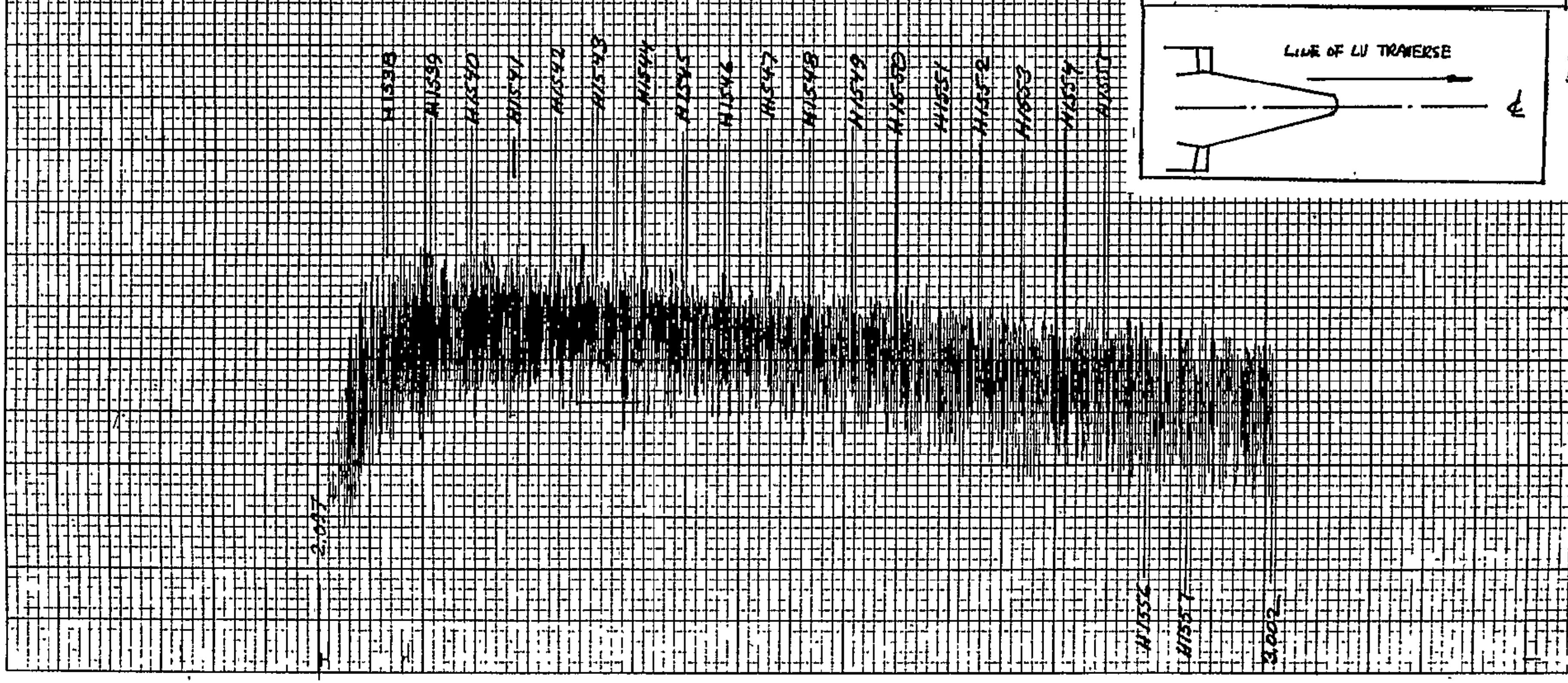
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ = 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.1 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1538 TO H-1555



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1155

NO. XY 1101

RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK PRINTED IN U.S.A.

DATE: 5/5/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G - 671	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

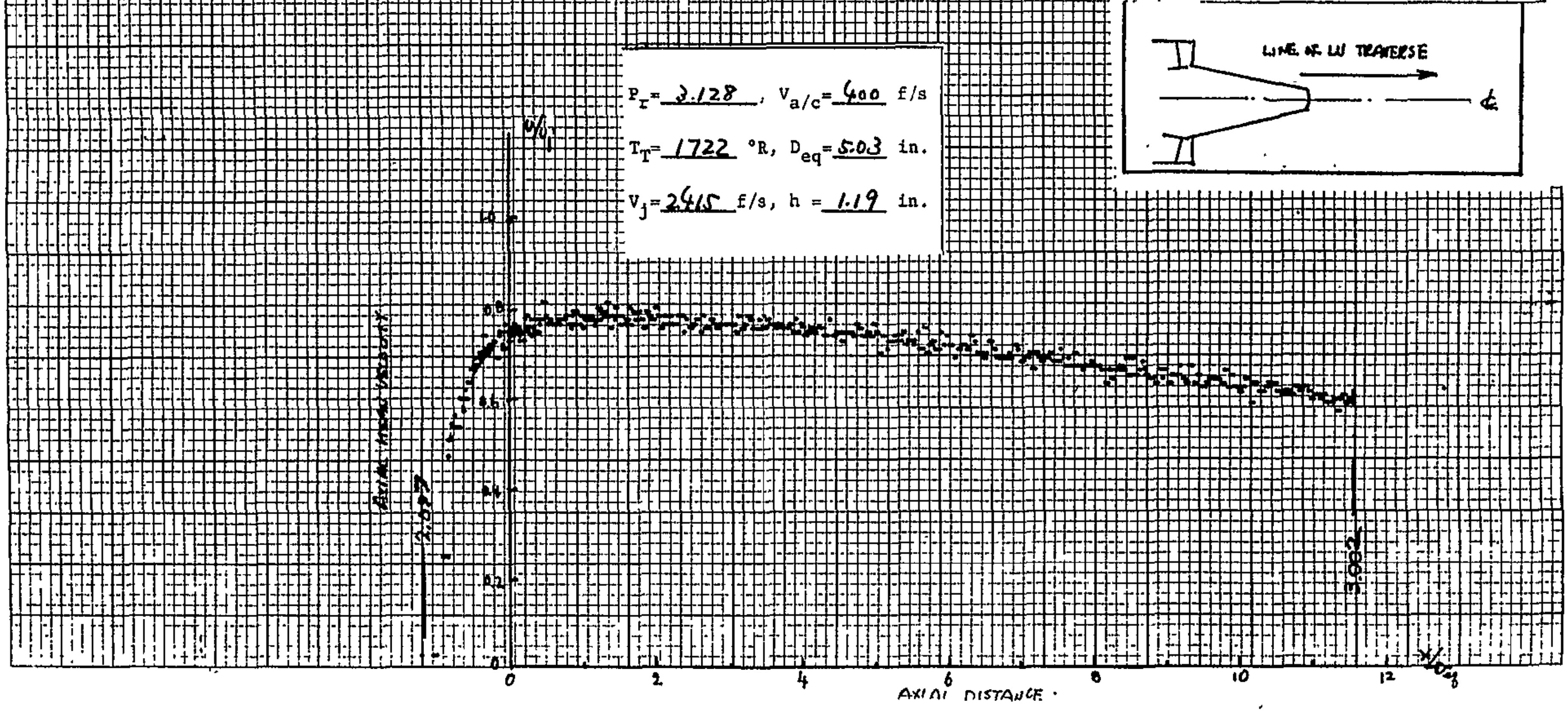
RADIAL LOCATIONS: REF. (℄) - 7.288 VOLTS; TRAVERSE - 8.047 VOLTS; $\frac{R}{R_2}$ = 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 7.1 INCH/UNIT; Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



NO. XY 1011

1156

GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 6/5/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 672

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

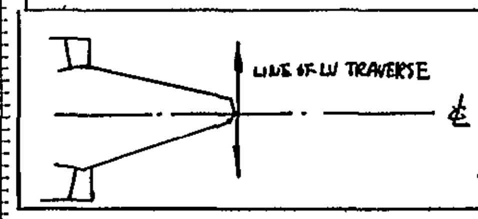
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS = 3.3 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



ORIGINAL PAGE IS OF POOR QUALITY

No XY 1101

1157

DATE: 5/5/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 673

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - 7.288 VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

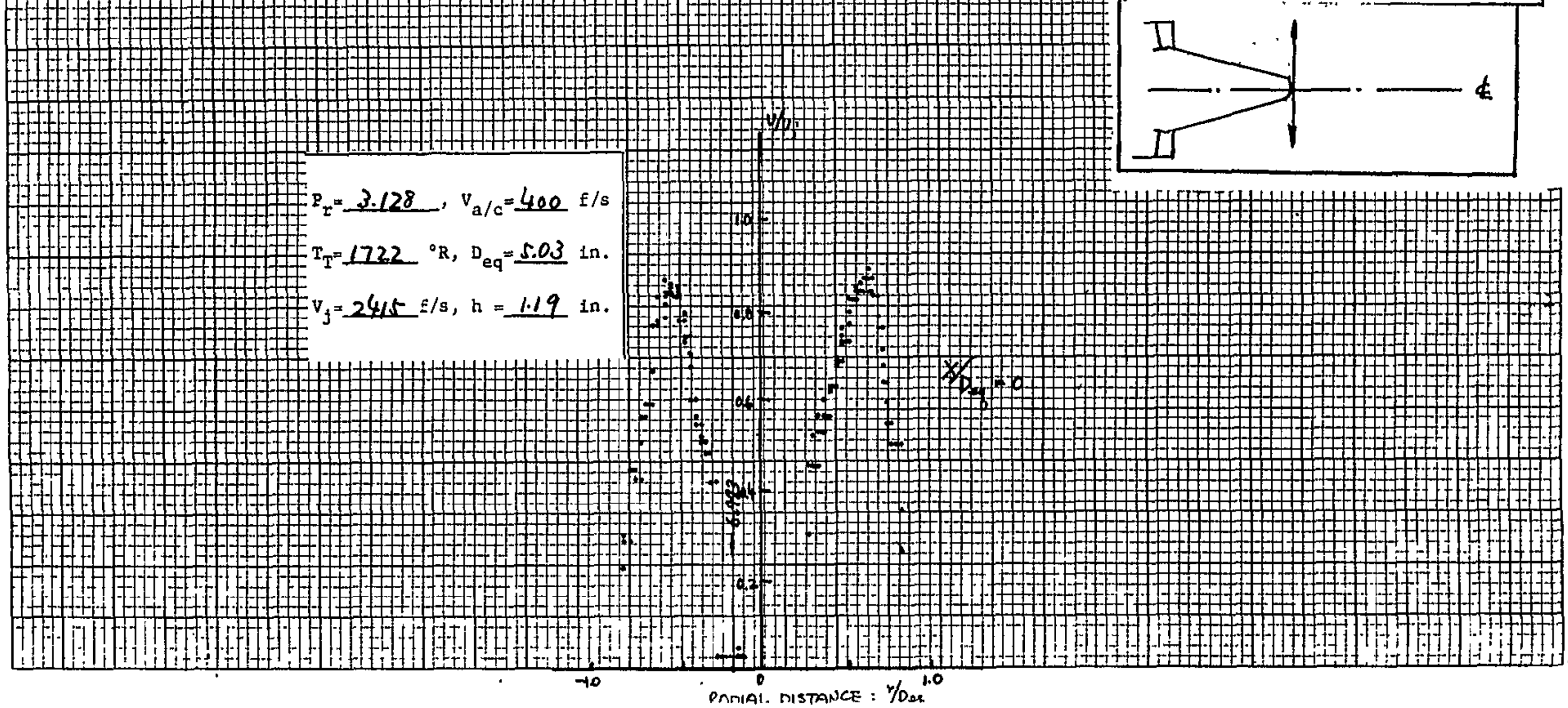
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

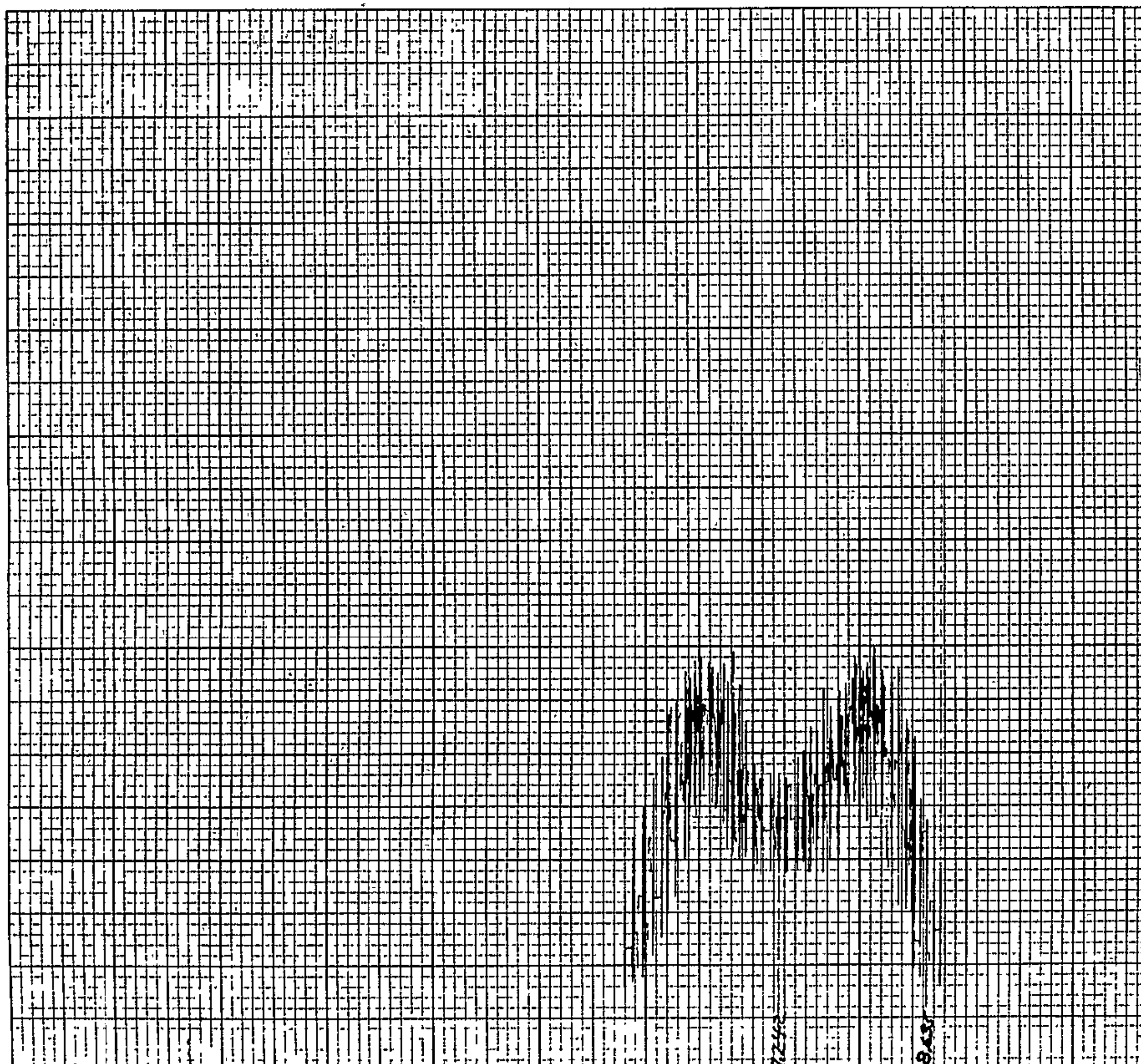
AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}} = 0$

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 5/5/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G -674	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

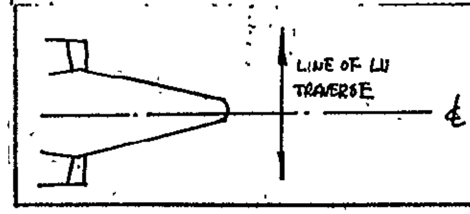
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

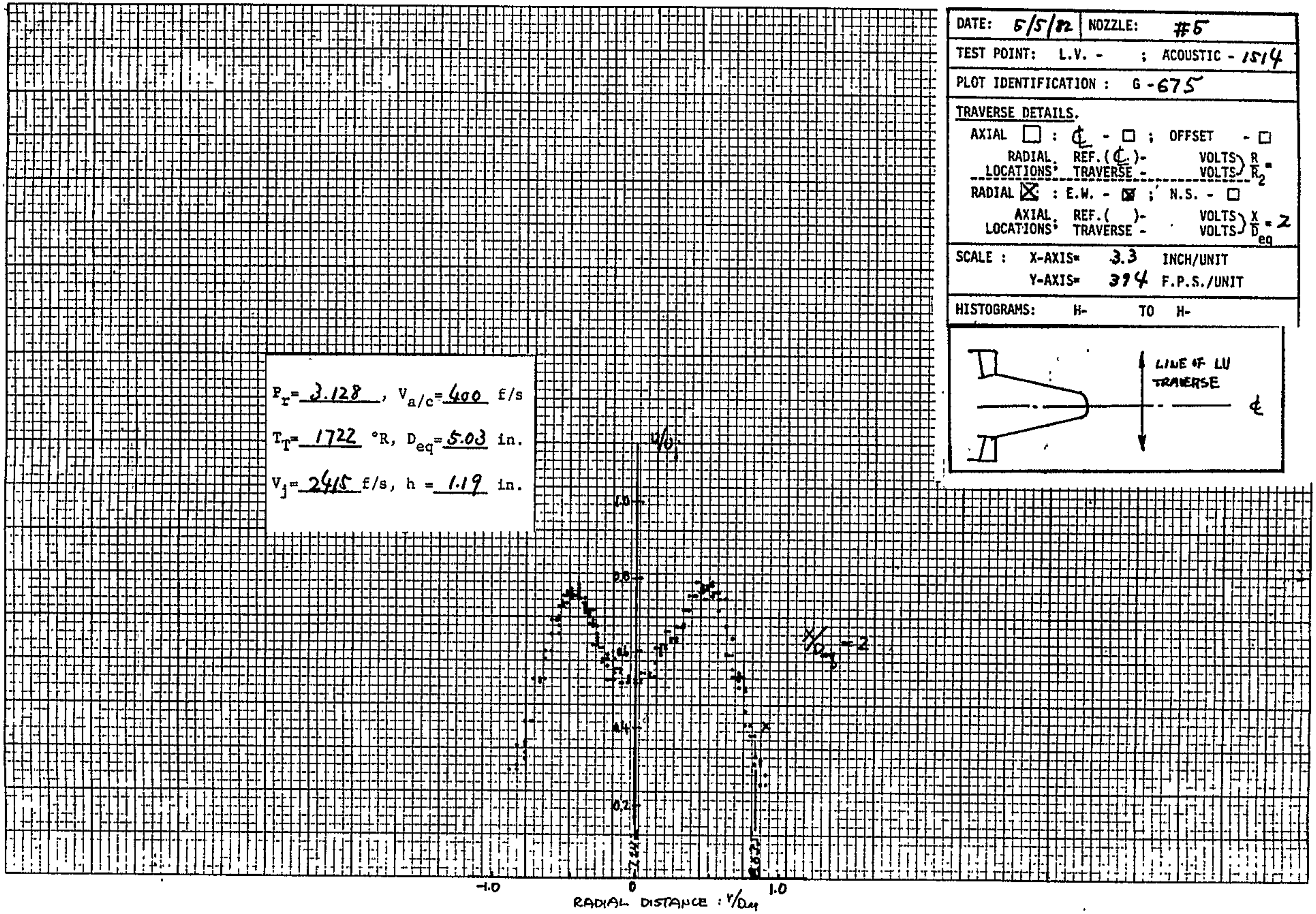
AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ = 2

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 374 F.P.S./UNIT

HISTOGRAMS: H- TO H-





1160

GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK

NO XY 1011

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/5/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G - 676	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

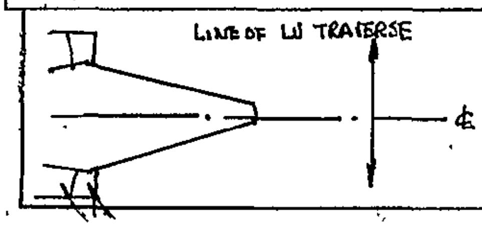
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

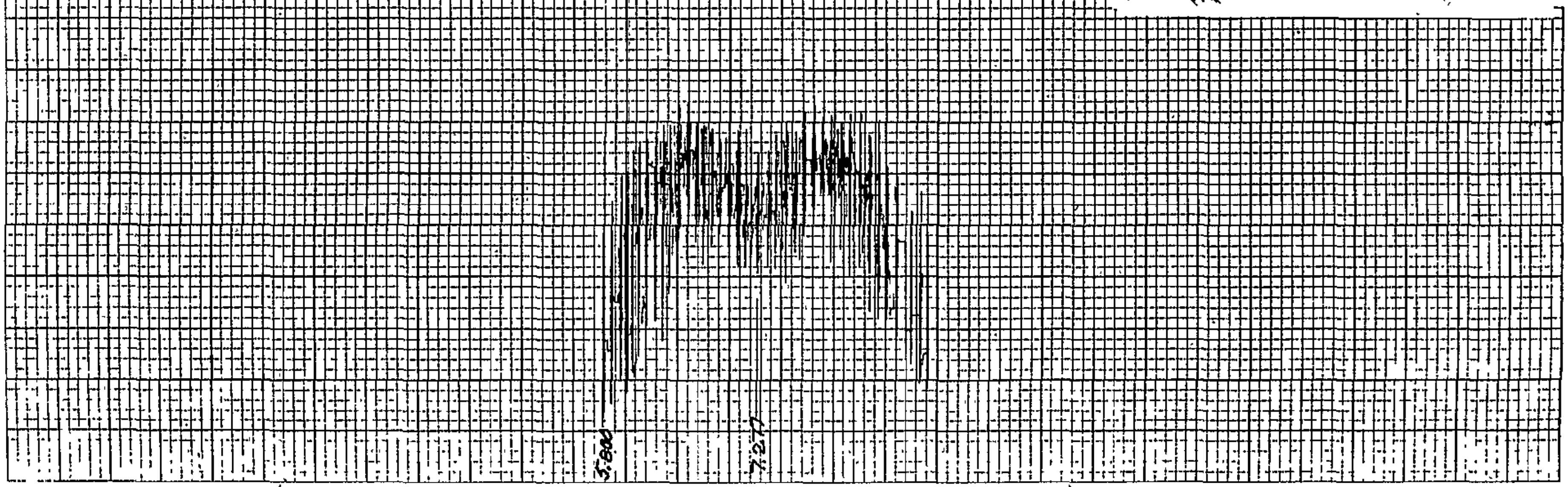
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 5/5/82	NOZZLE: #5	
TEST POINT: L.V. - ; ACOUSTIC - 1514		
PLOT IDENTIFICATION : G - 677		

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

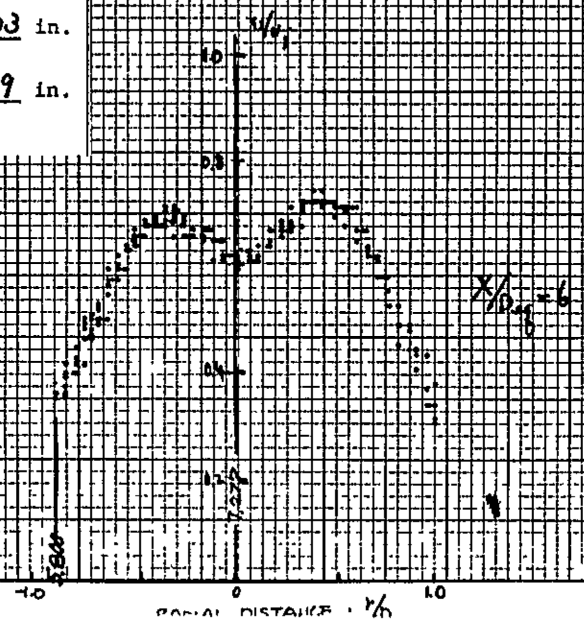
LINE OF LV TRAVERSE

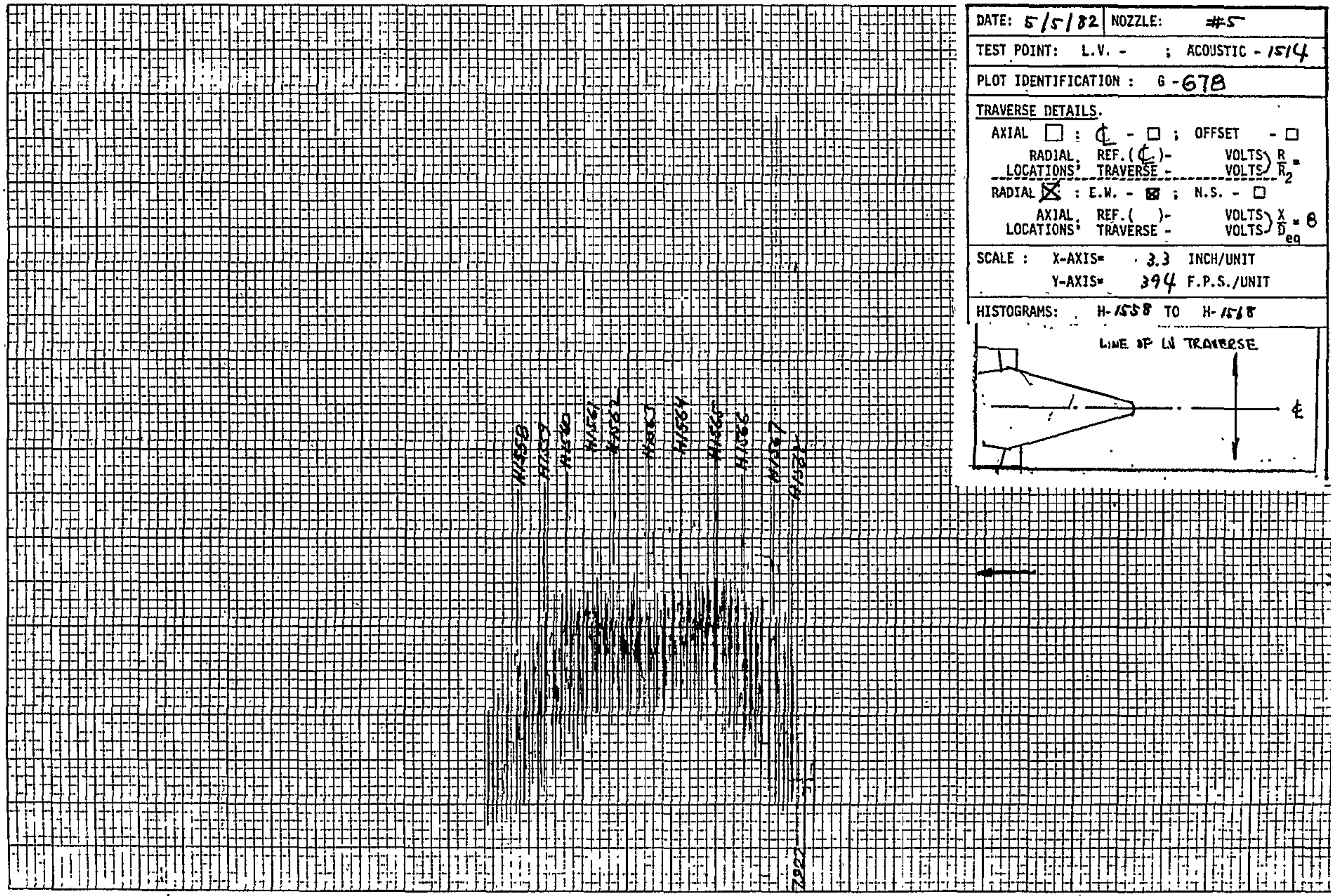
℄

P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1722 °R, D_{eq} = 5.03 in.

V_j = 2415 f/s, h = 1.19 in.



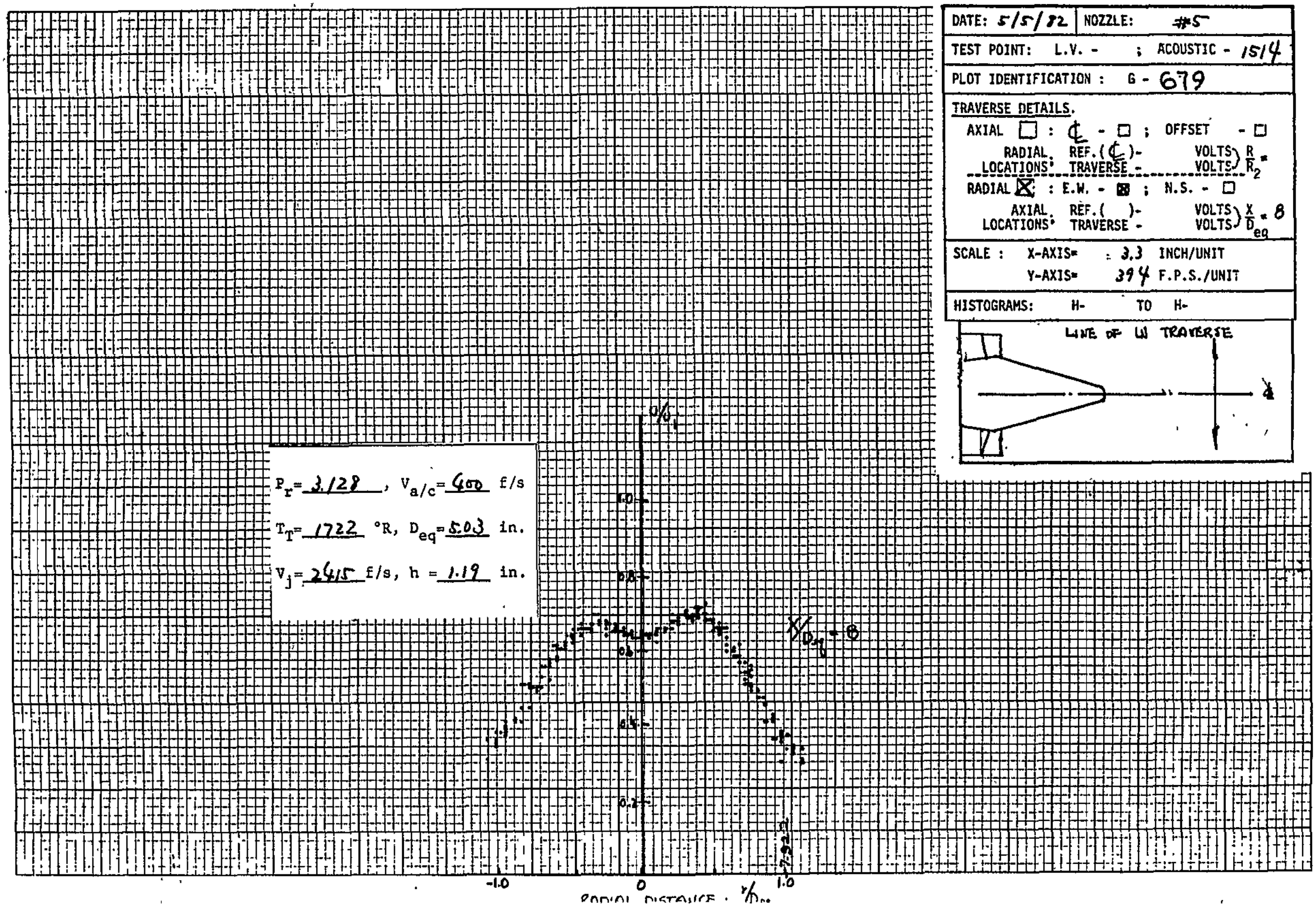


No. XY 1101

1163

RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
PRINTED IN U.S.A.

ORIGINAL PAGE IS
OF POOR QUALITY



NO. XY 1101

RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK

1164

ORIGINAL PAGE IS
OF POOR QUALITY

DATE: 5/5/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 680

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 12

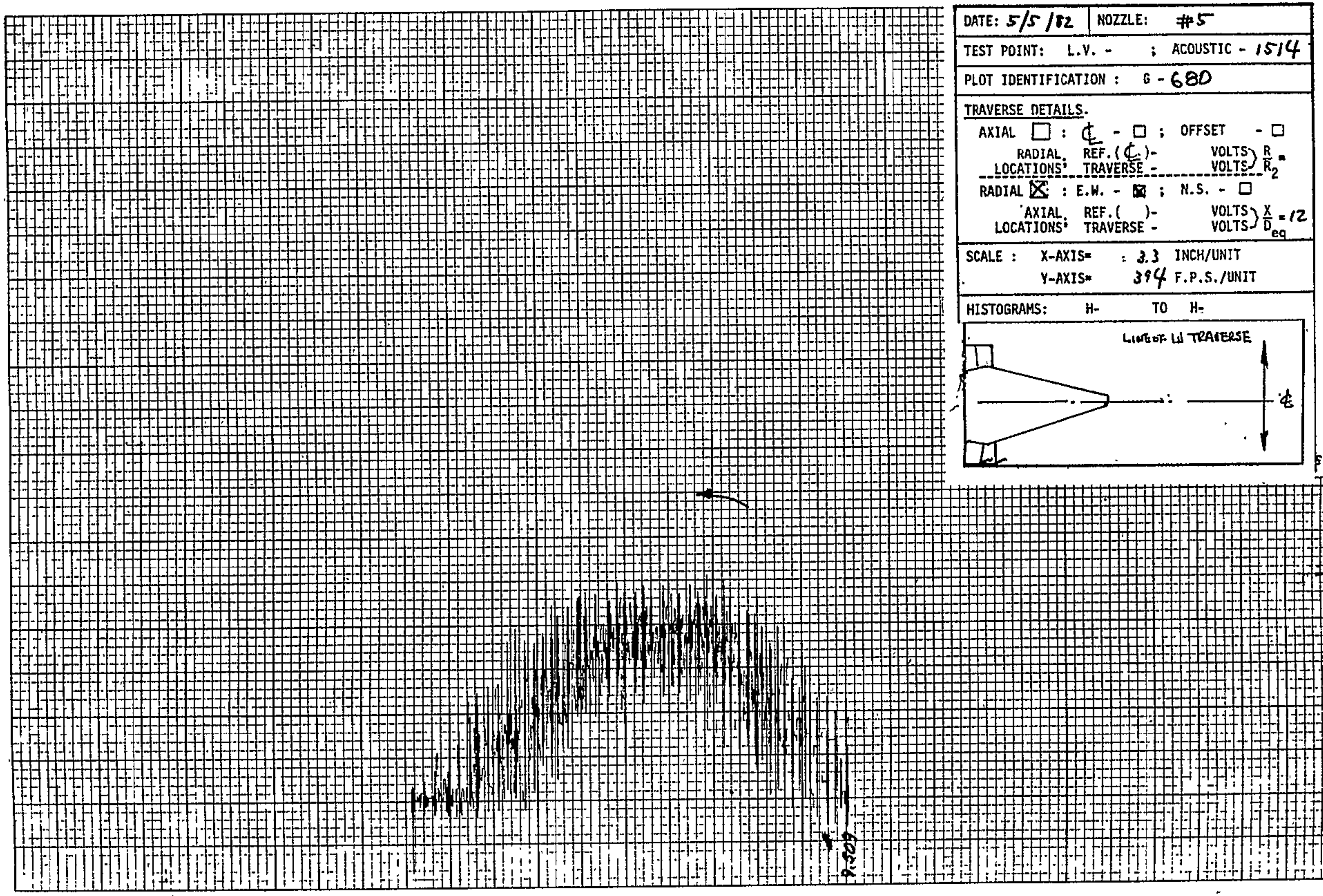
SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



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NO XY 1101

1165

DATE: 5/5/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 681

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS } $\frac{R}{R_2}$ =

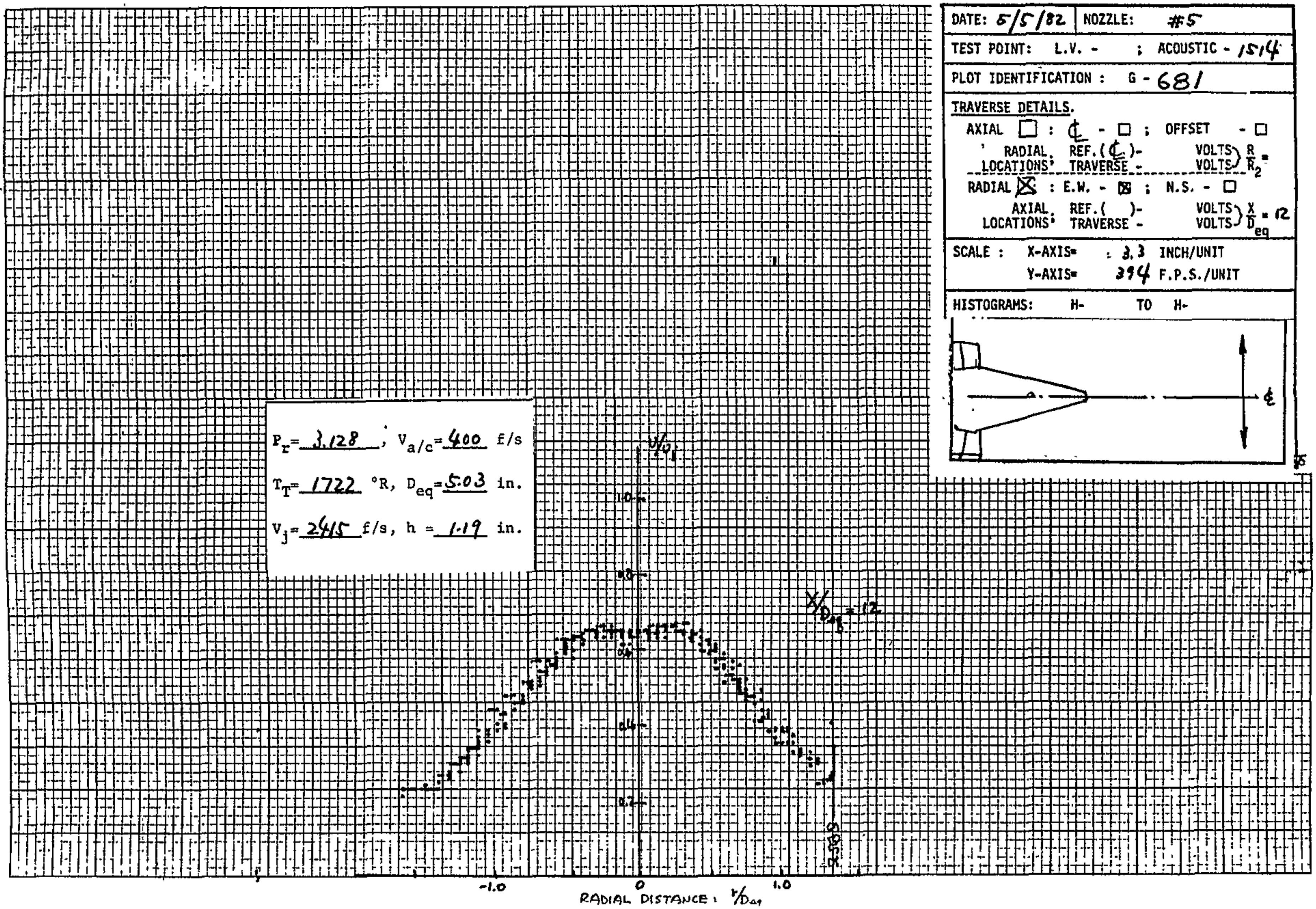
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS } $\frac{X}{D_{eq}}$ = 12

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

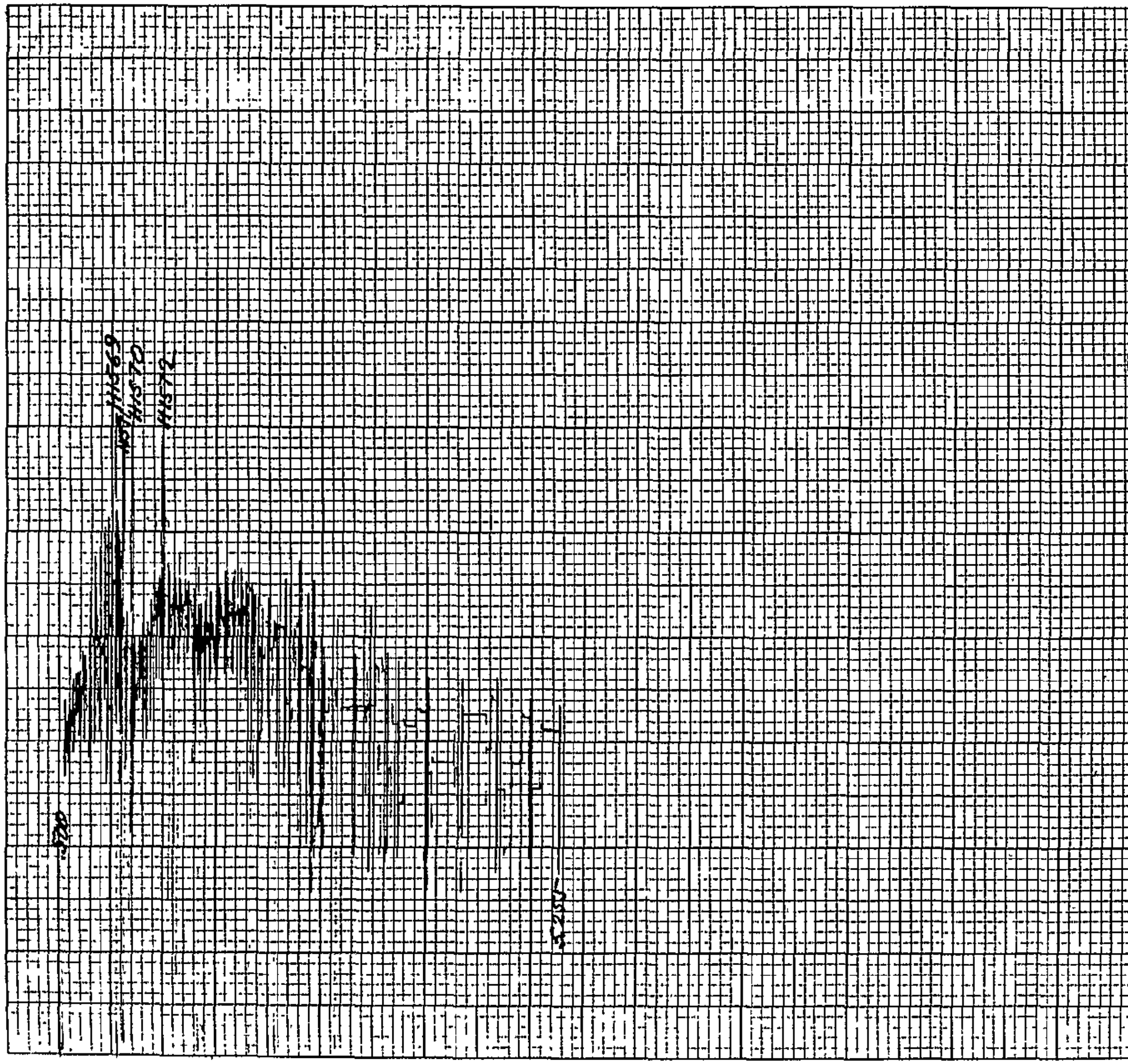
HISTOGRAMS: H- TO H-



1166

ORIGINAL PAGE IS OF POOR QUALITY

1167



DATE: 5/5/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G - [redacted] 682	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

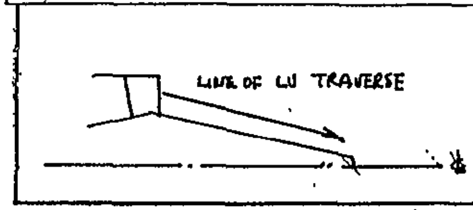
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 5/5/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G -[redacted]683	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS } $\frac{R}{R_2}$ =

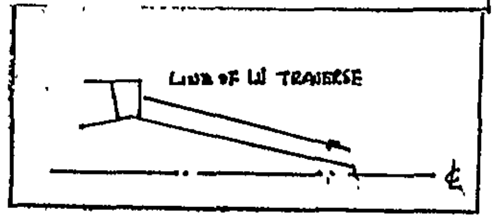
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

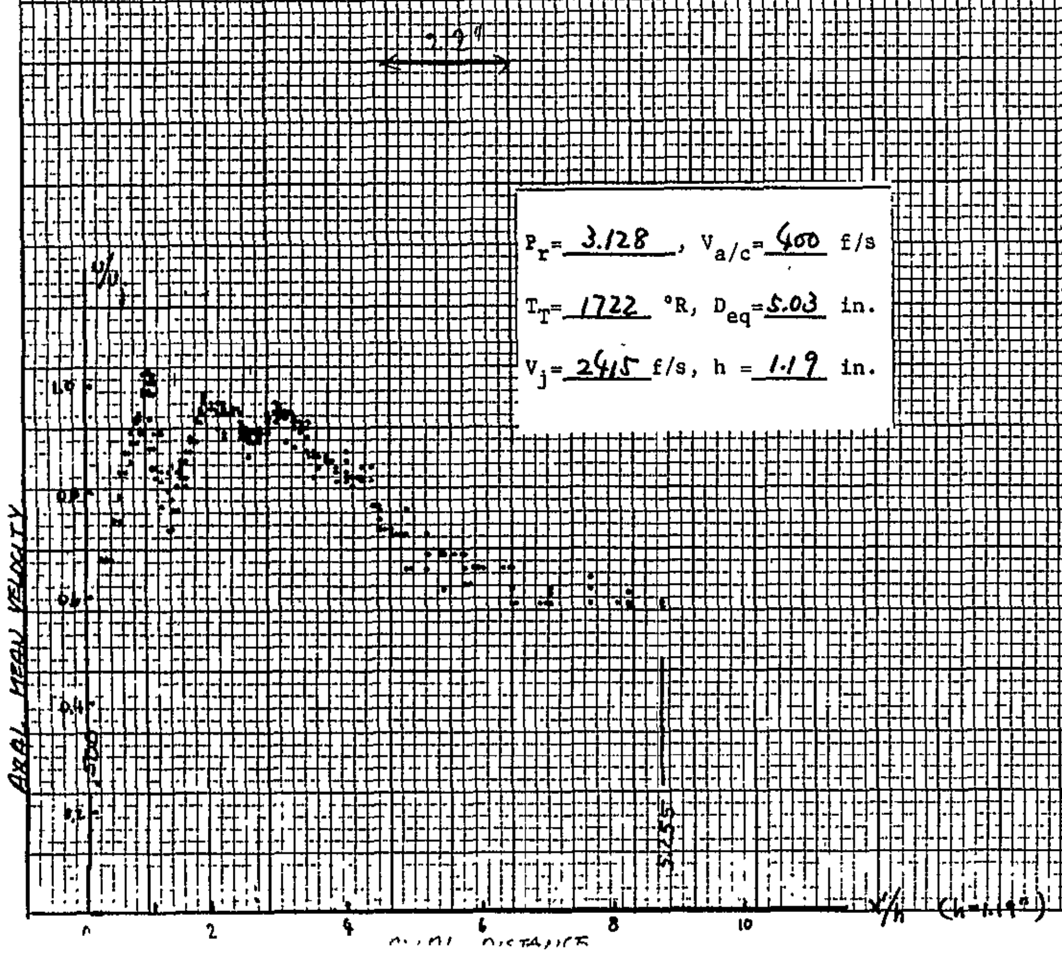
HISTOGRAMS: H- TO H-



P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1722 °R, D_{eq} = 5.03 in.

V_j = 2415 f/s, h = 1.19 in.



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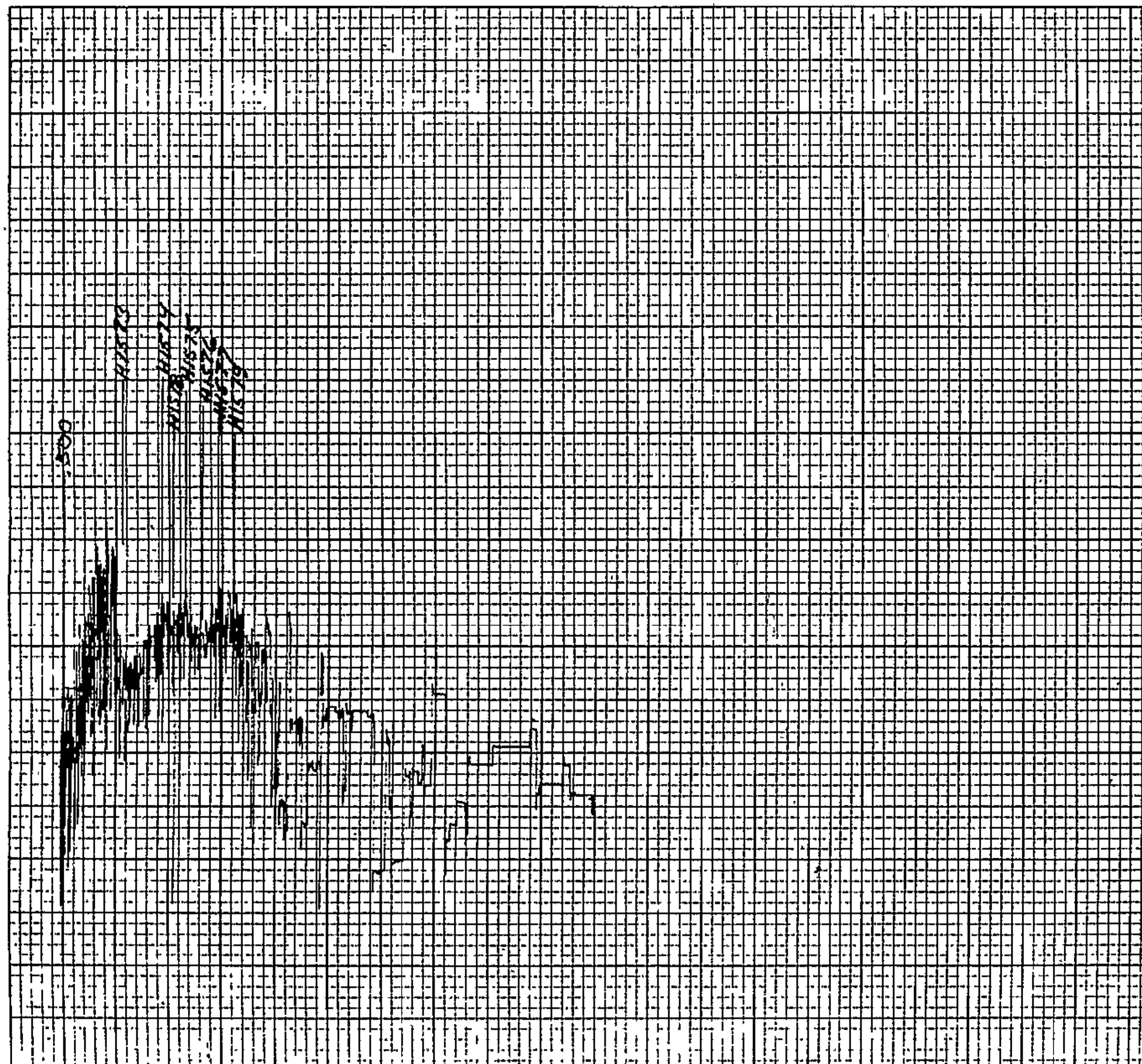
NO. XY 1101



DATE: 5/6/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G - 684	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

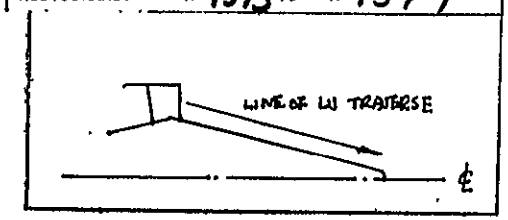
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 2.22 INCH/UNIT

Y-AXIS = 334 F.P.S./UNIT

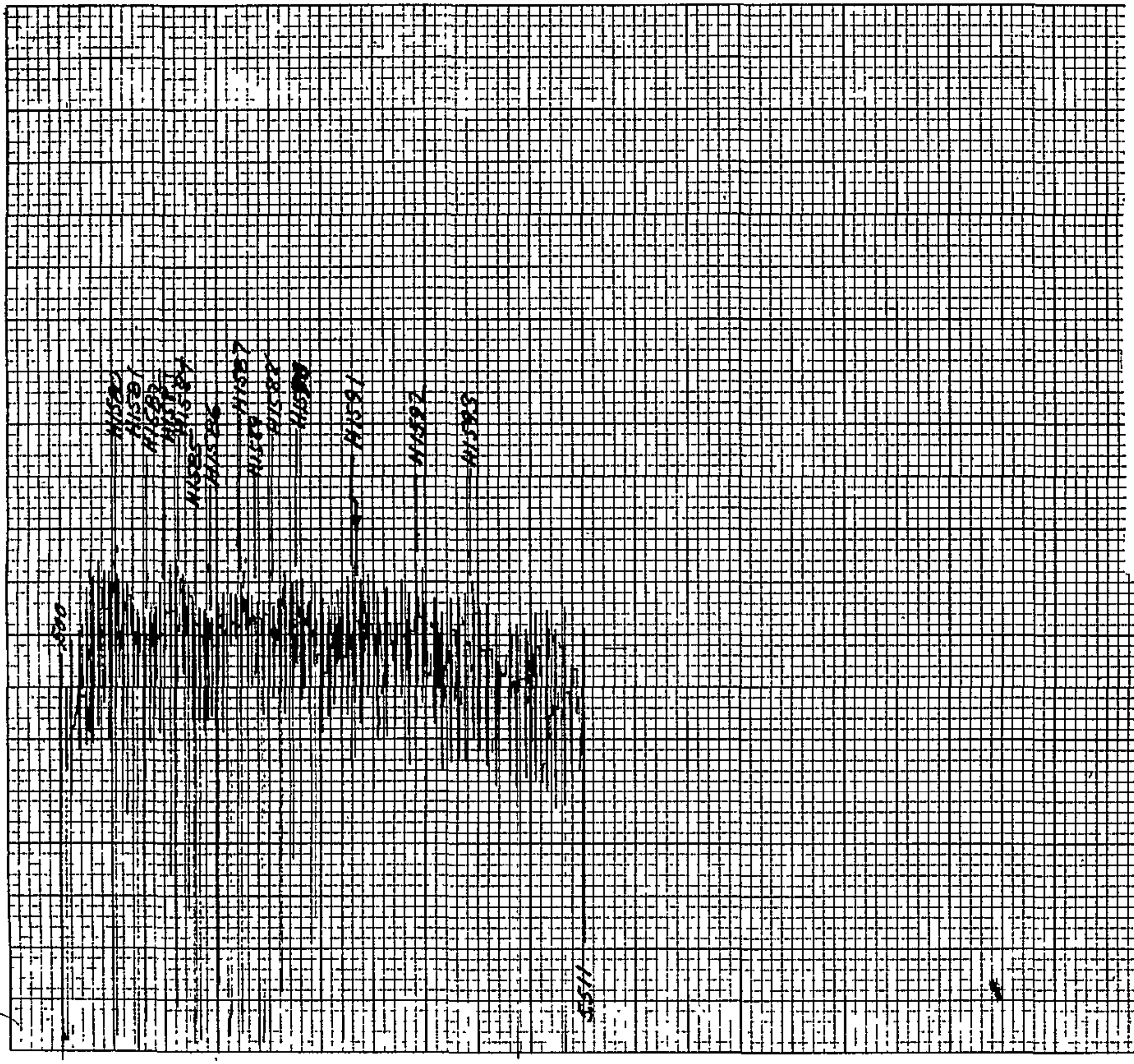
HISTOGRAMS: H- 1573 TO H- 1579



HHS.

1169

C-7



DATE: 5/6/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G - 685	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

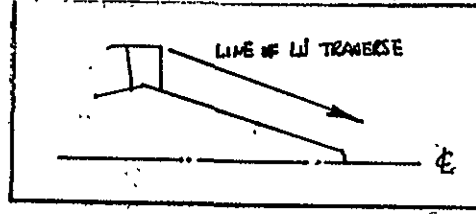
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1580 TO H-1593



1170

NO. XY 1101

DATE: 5/6/82	NOZZLE: # 5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G - 686	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

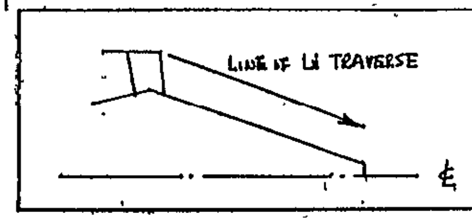
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

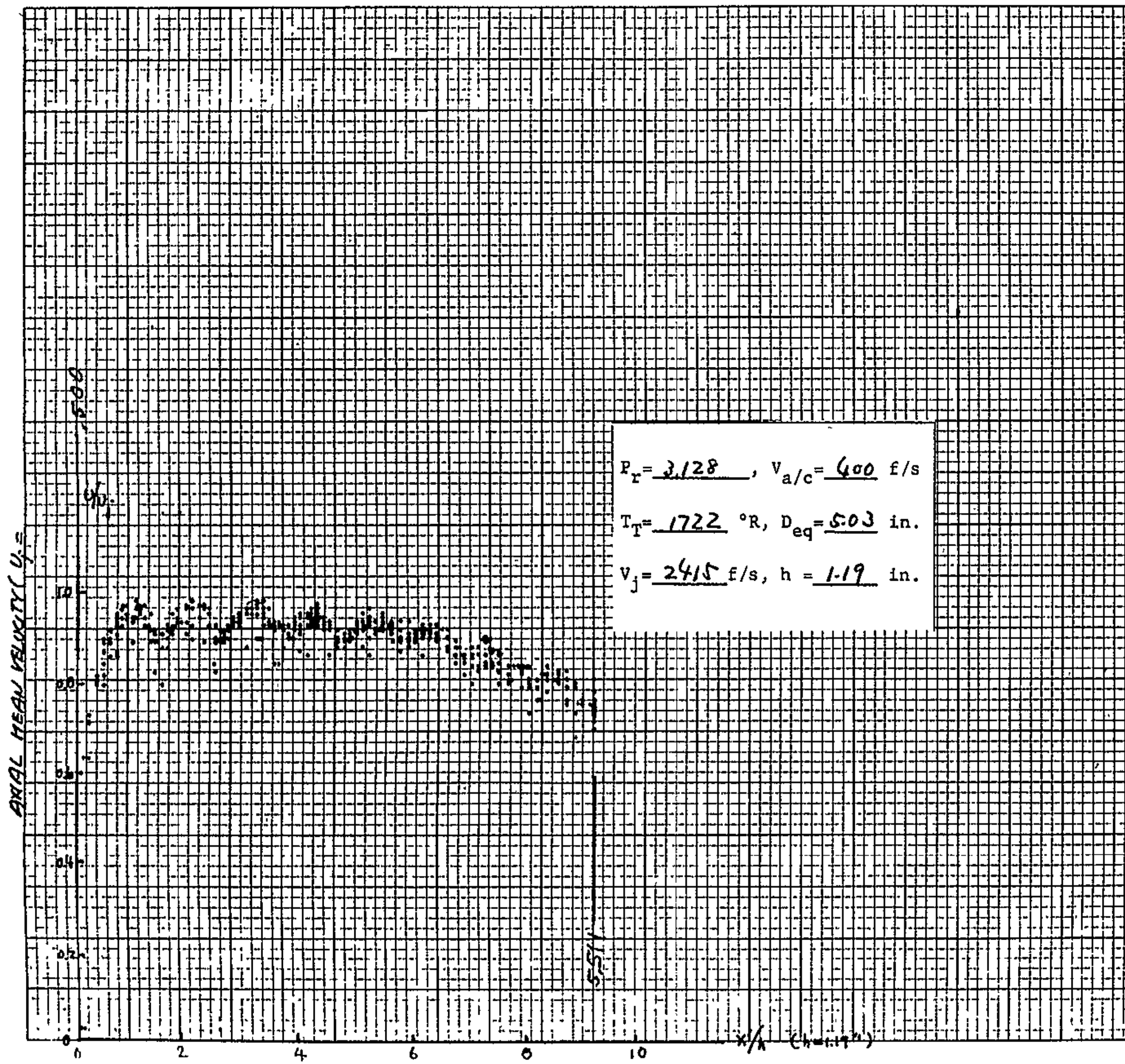
HISTOGRAMS: H- TO H-



P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1722 °R, D_{eq} = 5.03 in.

V_j = 2415 f/s, h = 1.19 in.



DATE: 5/6/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 687

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

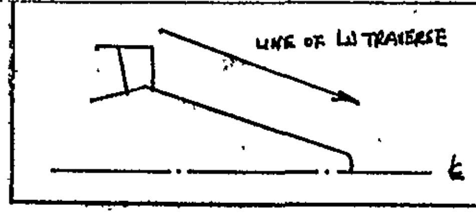
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

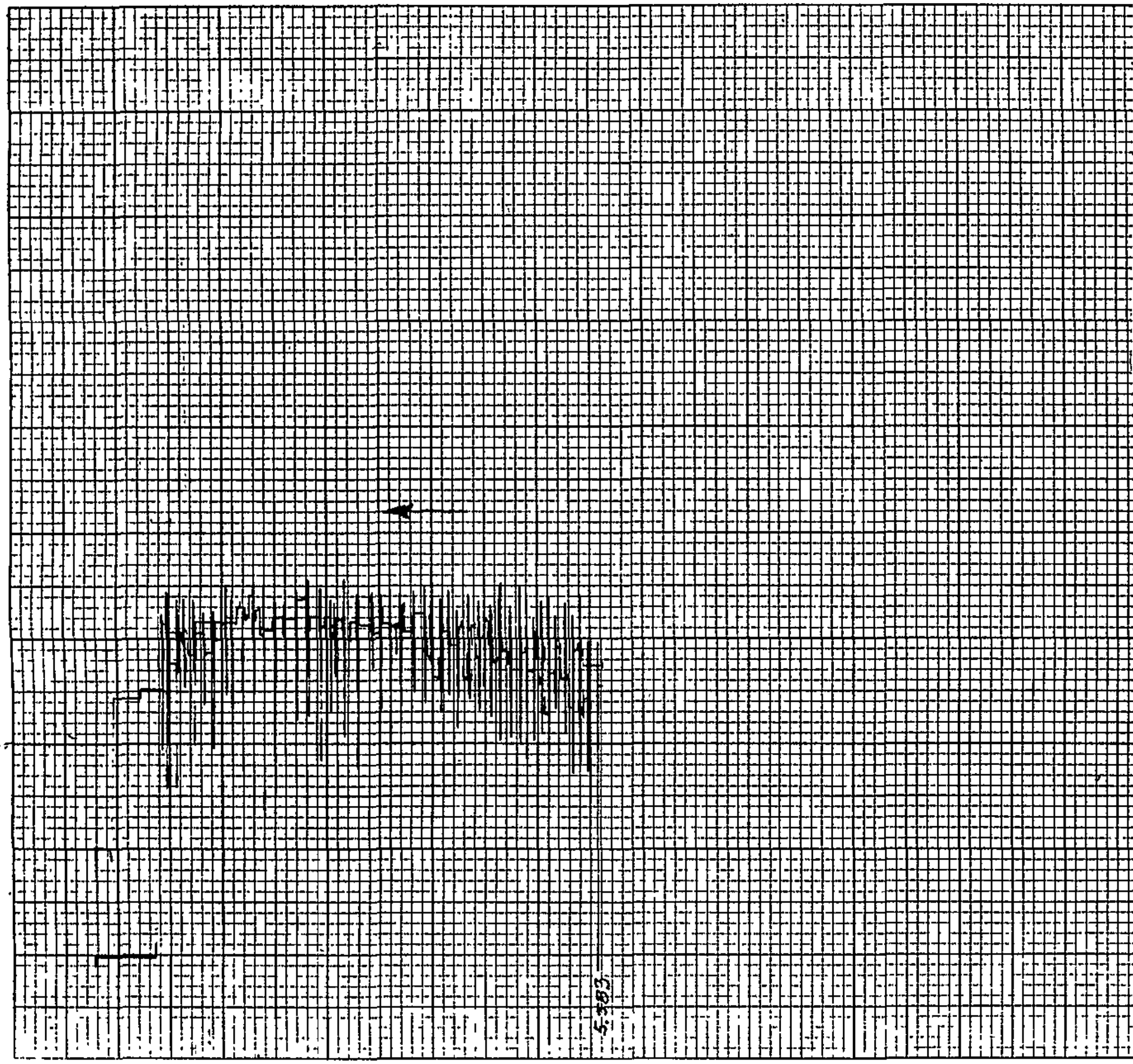
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





NO. XY 1011

1172

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/6/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC -1514	
PLOT IDENTIFICATION : G - 688	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

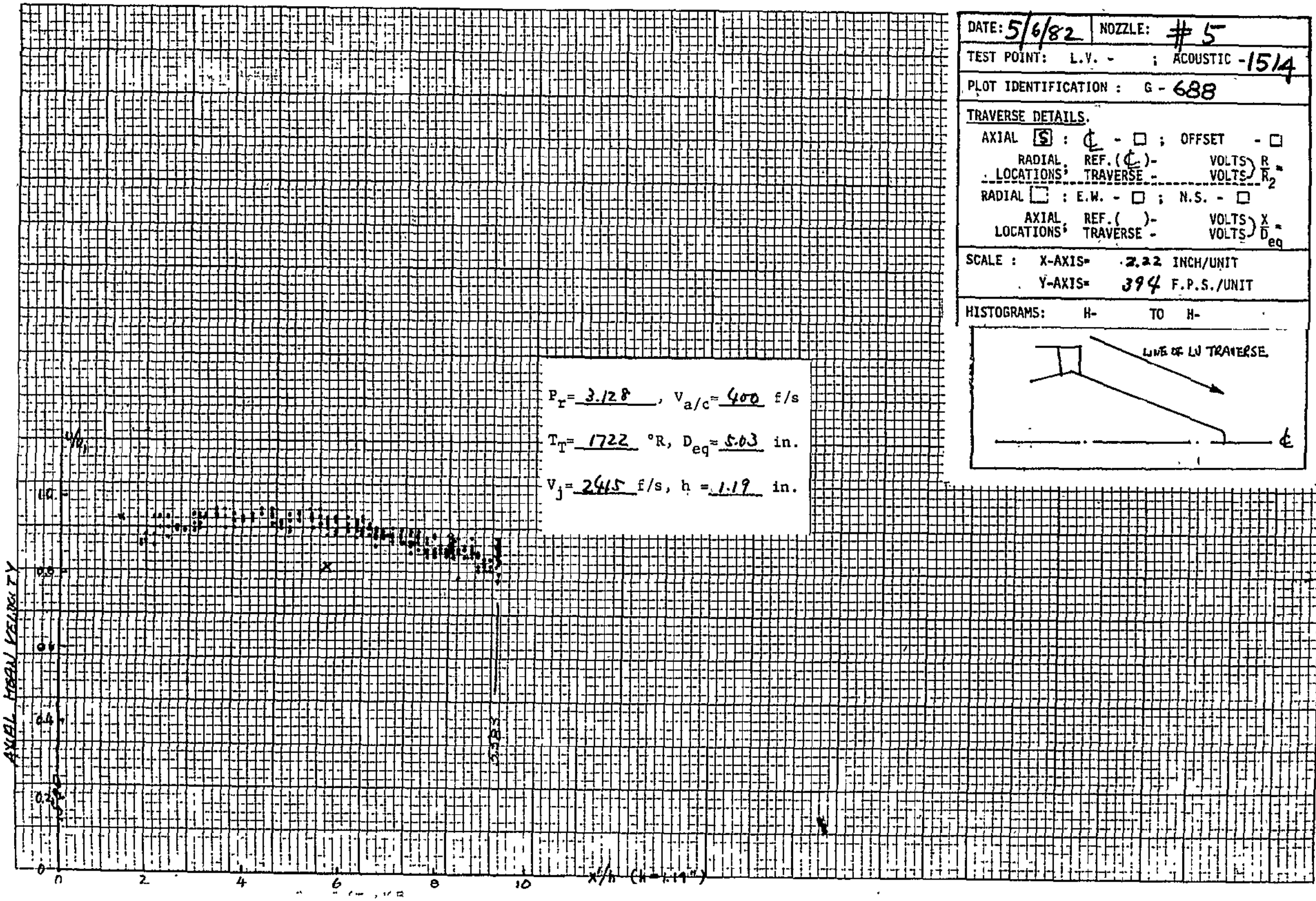
HISTOGRAMS: H- TO H-

ORIGINAL PAGE IS OF POOR QUALITY

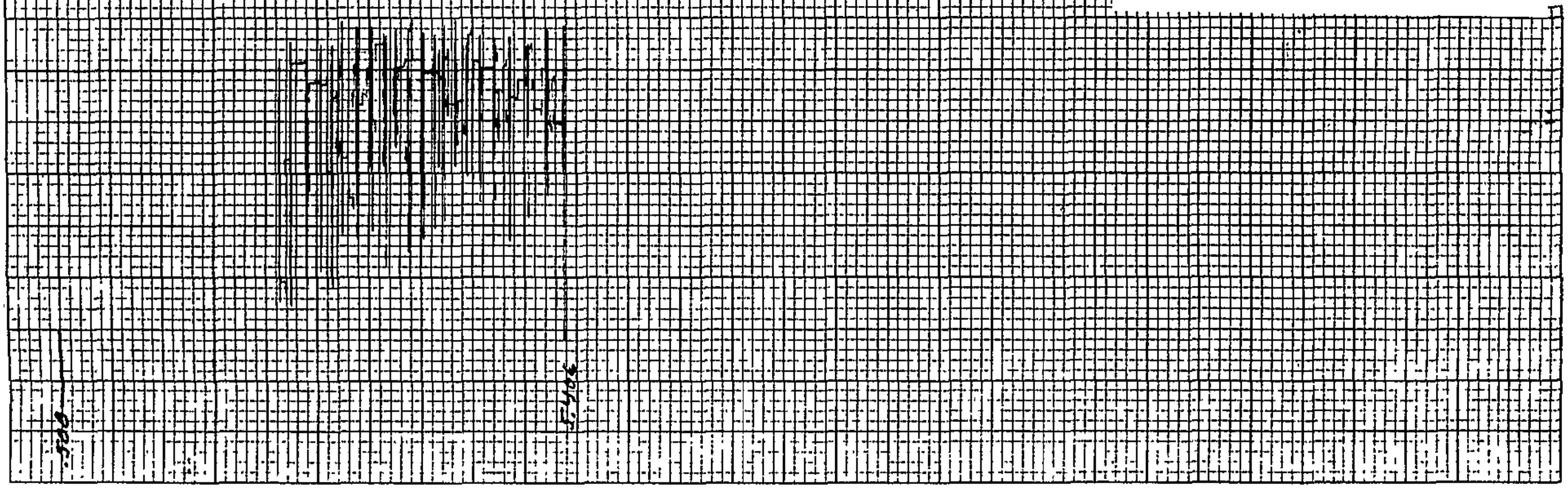
P_r= 3.128 , $V_{a/c}$= 400 f/s

T_T= 1722 °R, D_{eq}= 5.03 in.

V_j= 2415 f/s, h = 1.19 in.



1173



DATE: 5/6/82 | NOZZLE: # 5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 689

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

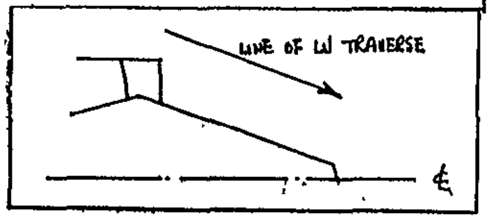
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

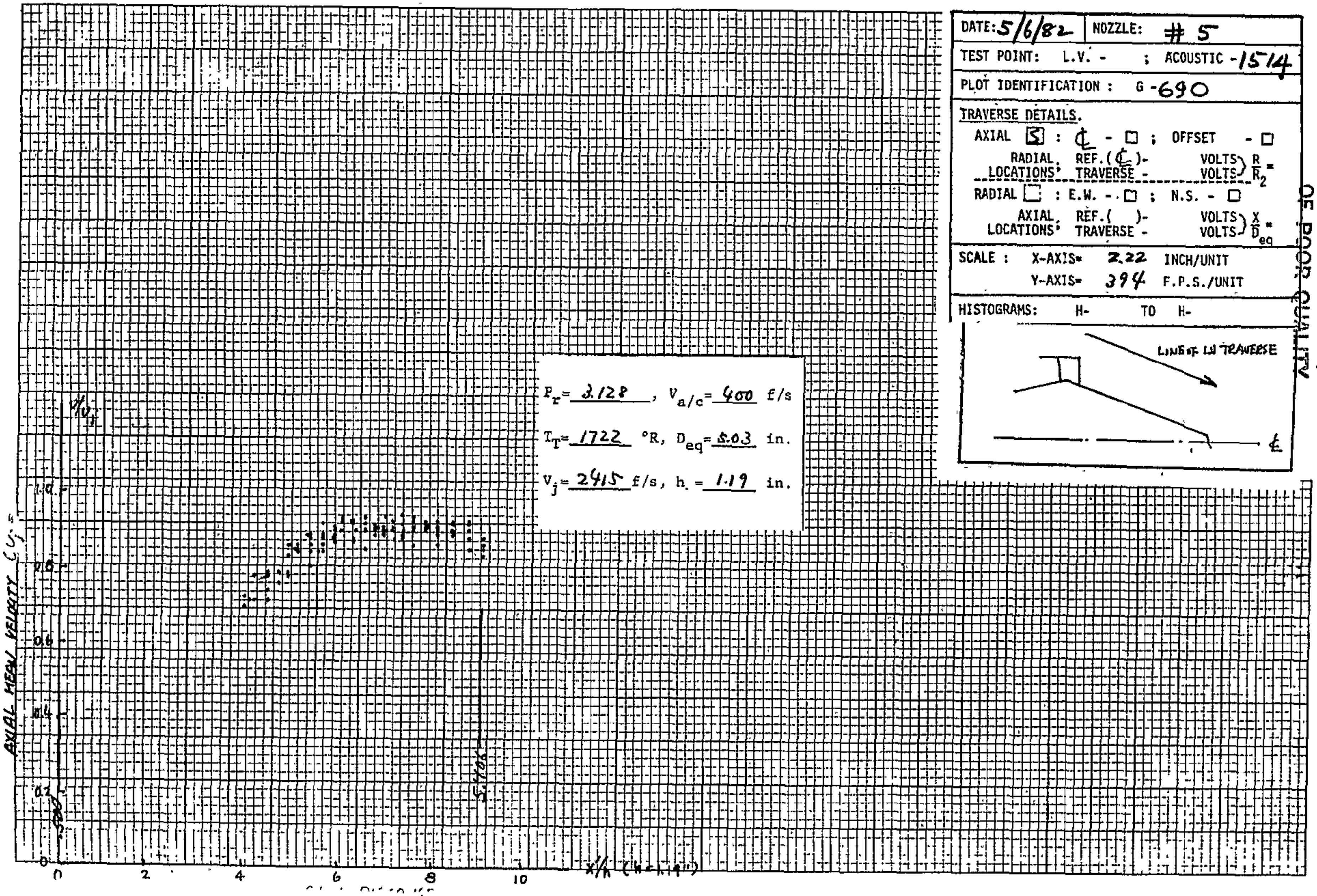
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

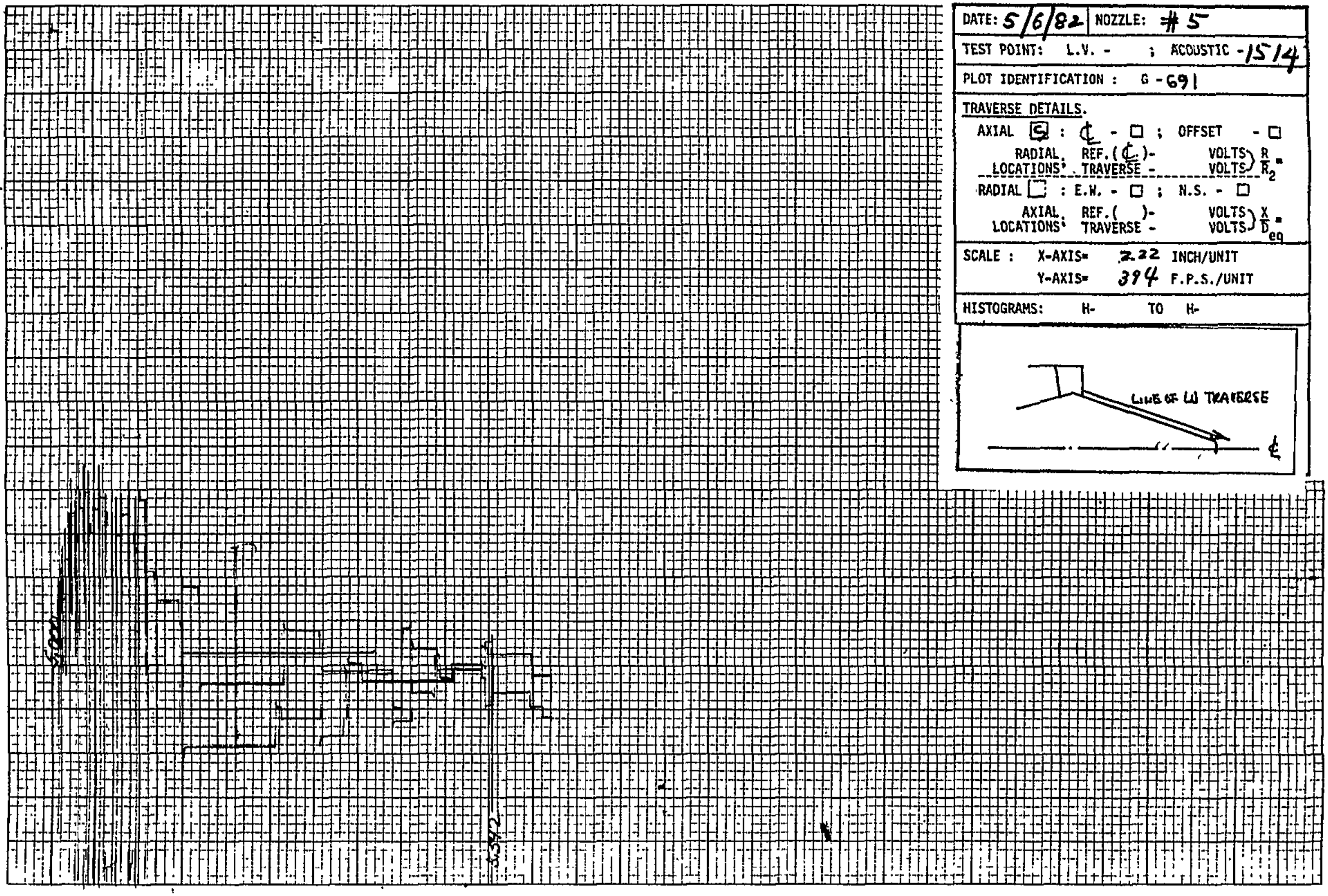
Y-AXIS= 314 F.P.S./UNIT

HISTOGRAMS: H- TO H-




DATE: 5/6/82
NOZZLE: # 5
TEST POINT: L.V. - ; ACOUSTIC - 1514
PLOT IDENTIFICATION : G - 690
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS VOLTS } $\frac{R}{R_2}$ =
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS VOLTS } $\frac{X}{D_{eq}}$ =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
P_r = 3.128 , $V_{a/c}$ = 400 f/s
T_T = 1722 °R, D_{eq} = 5.03 in.
V_j = 2415 f/s, h = 1.19 in.
U/V_j
AXIAL MEAN VELOCITY U/V_j
1.0
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
X/h (h = 1.19")
SHOCK

1175



DATE: 5/6/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC -1514

PLOT IDENTIFICATION : G-691

TRAVERSE DETAILS.

AXIAL ☑ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

NO. XY 1101

1176

RECORDING CHART GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 5/6/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 692

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

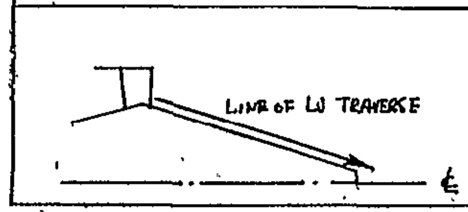
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

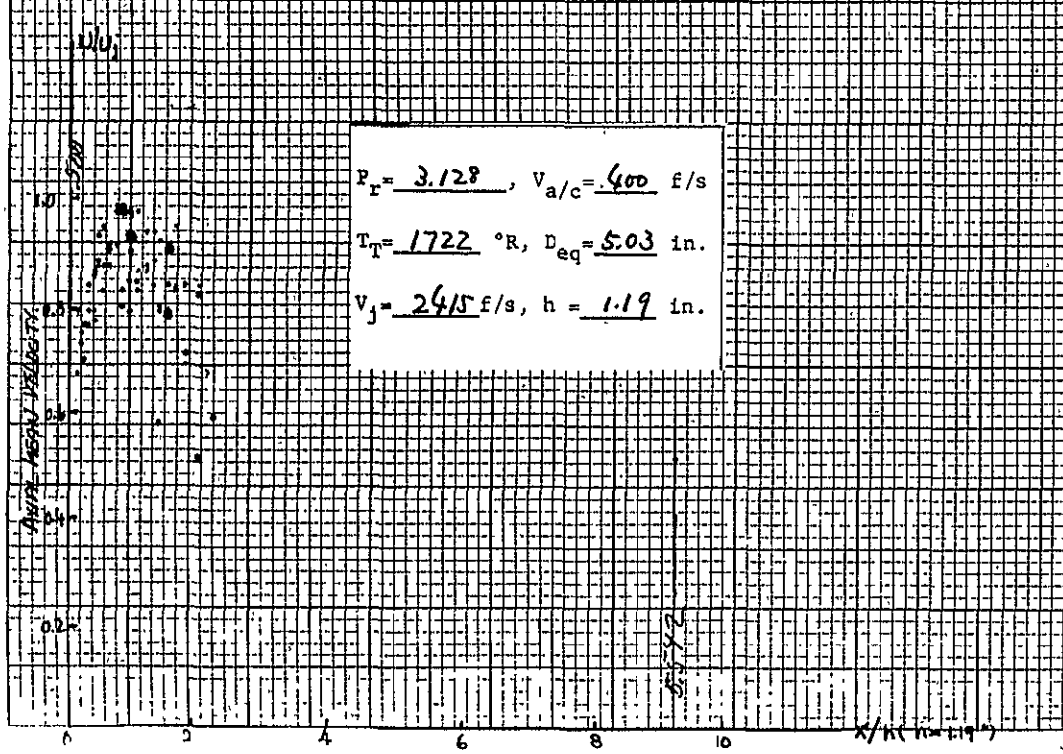
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = .222 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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DATE: 5/6/82 | NOZZLE: # 5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 693

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

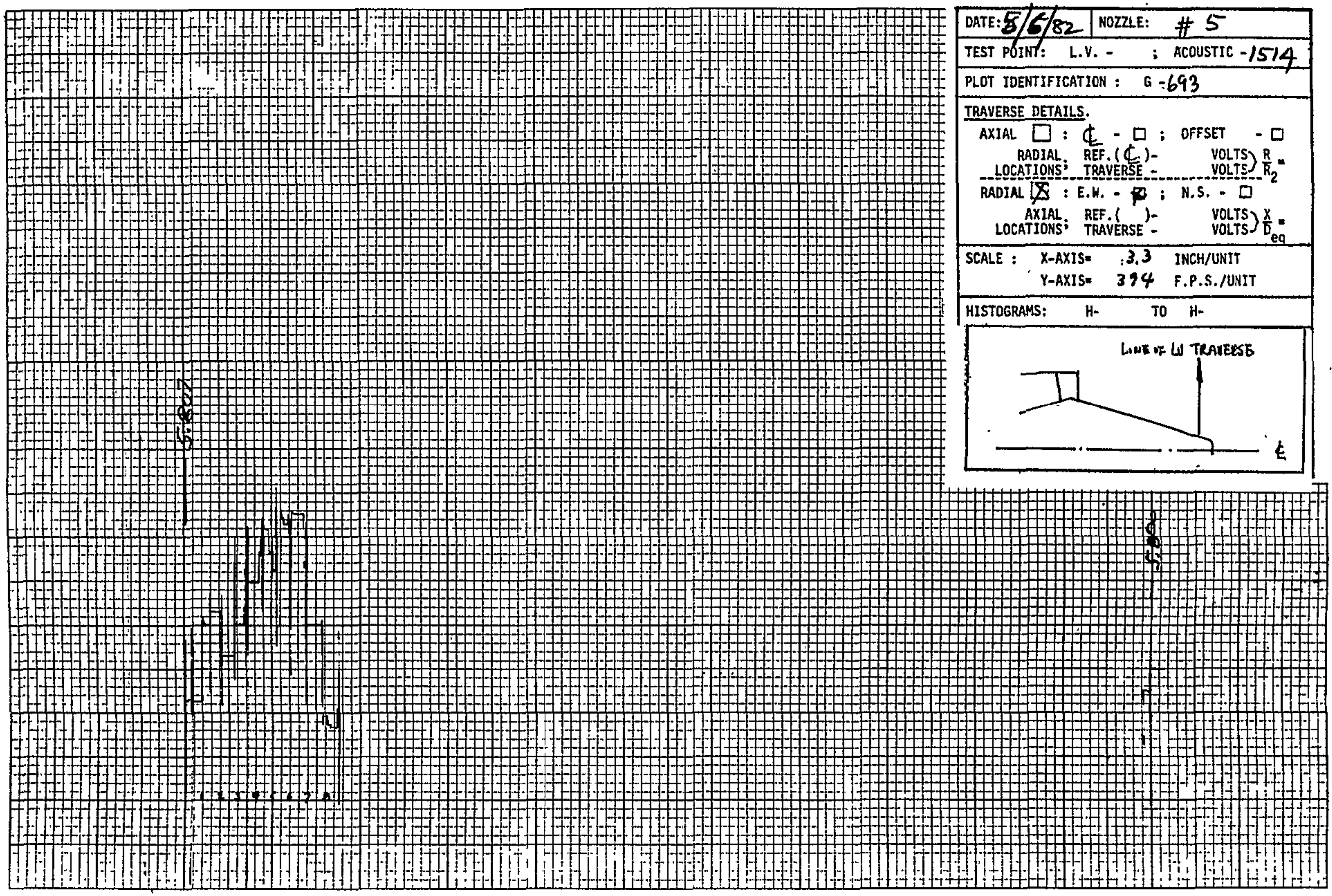
SCALE : X-AXIS = .3.3 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



1178

NO. XY 1011

RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
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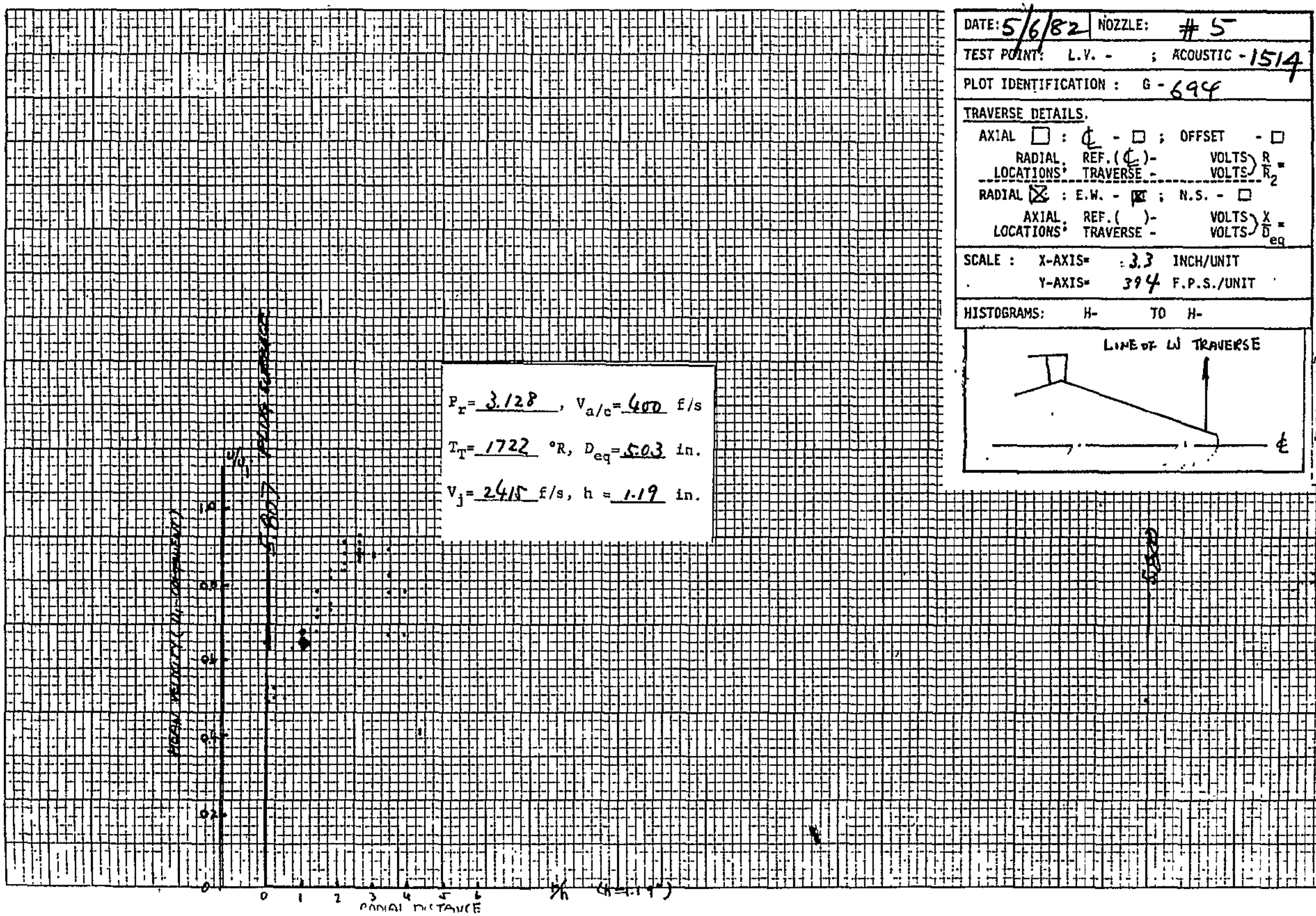
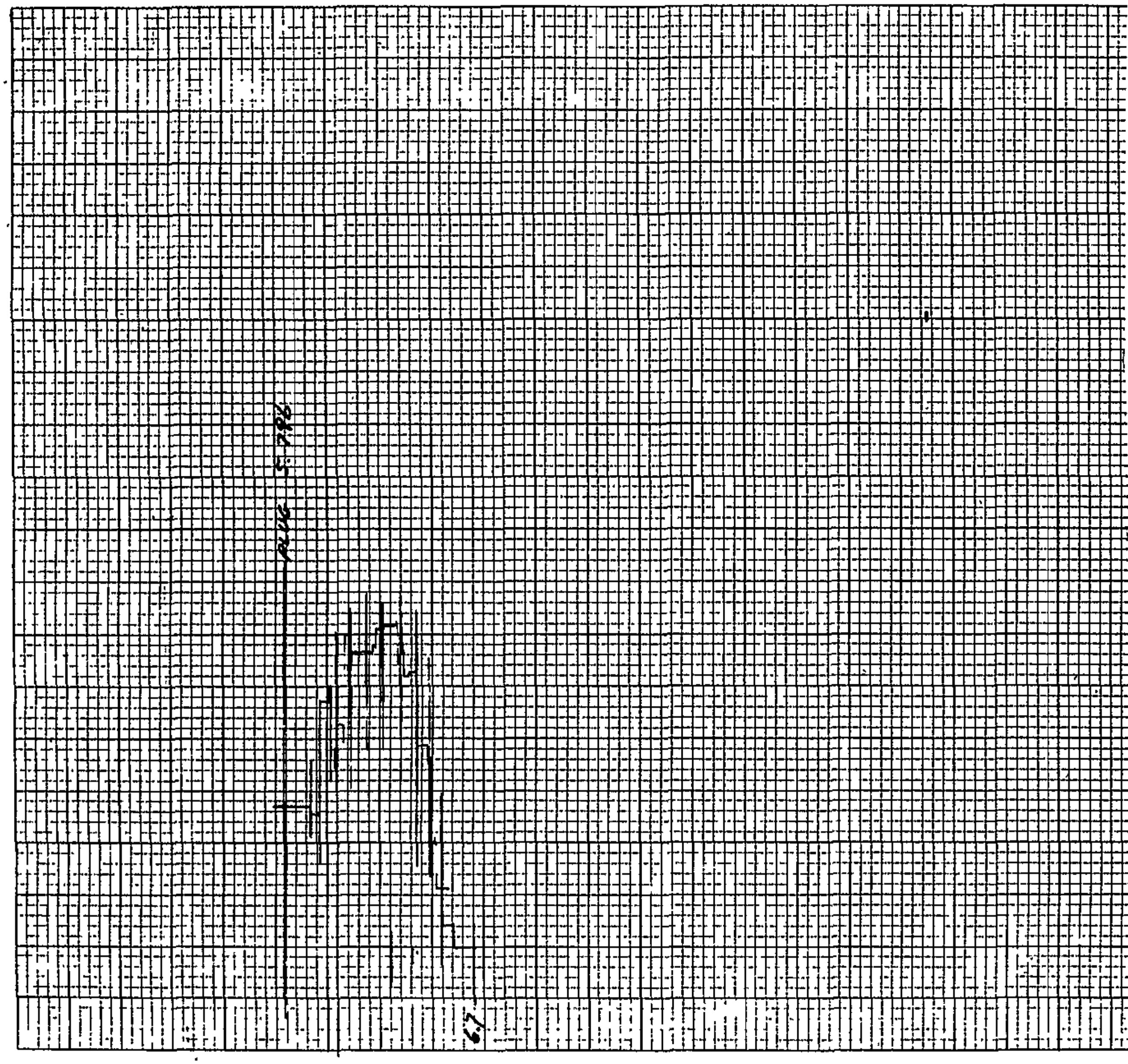
1173


DATE: 5/6/82 NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514
PLOT IDENTIFICATION : G - 694
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF. (℄)- TRAVERSE -
VOLTS VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF. ( )- TRAVERSE -
VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 3.3 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr = 3.128 , Va/c = 400 f/s
TT = 1722 °R, Deq = 5.03 in.
Vj = 2415 f/s, h = 1.19 in.
MEAN VELOCITY
PLUG SURFACE
RADIAL DISTANCE
r/h (h=1.19")
0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
6



DATE: 5/6/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G - 695	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

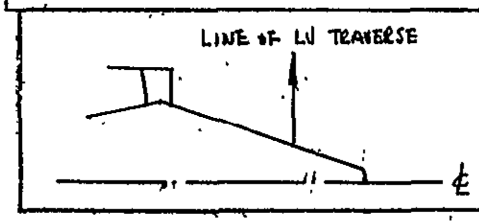
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 5/6/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 696

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

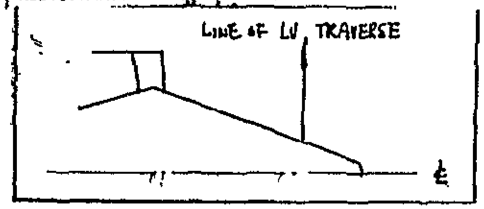
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

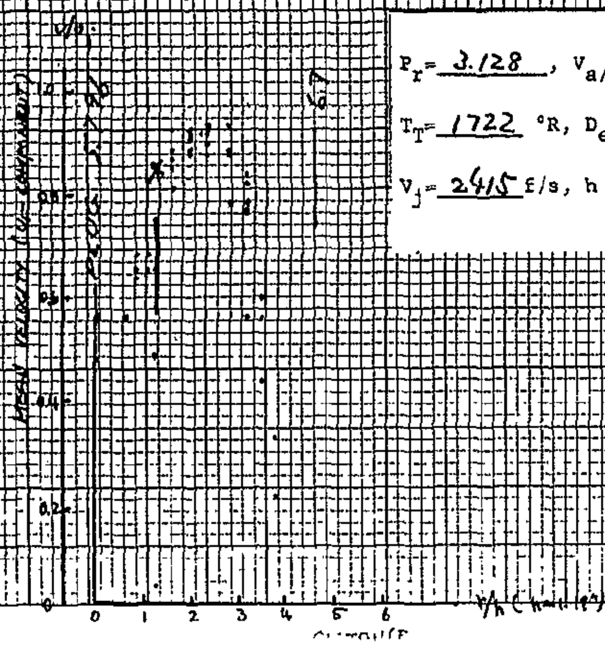
HISTOGRAMS: H- TO H-



P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1722 °R, D_{eq} = 5.03 in.

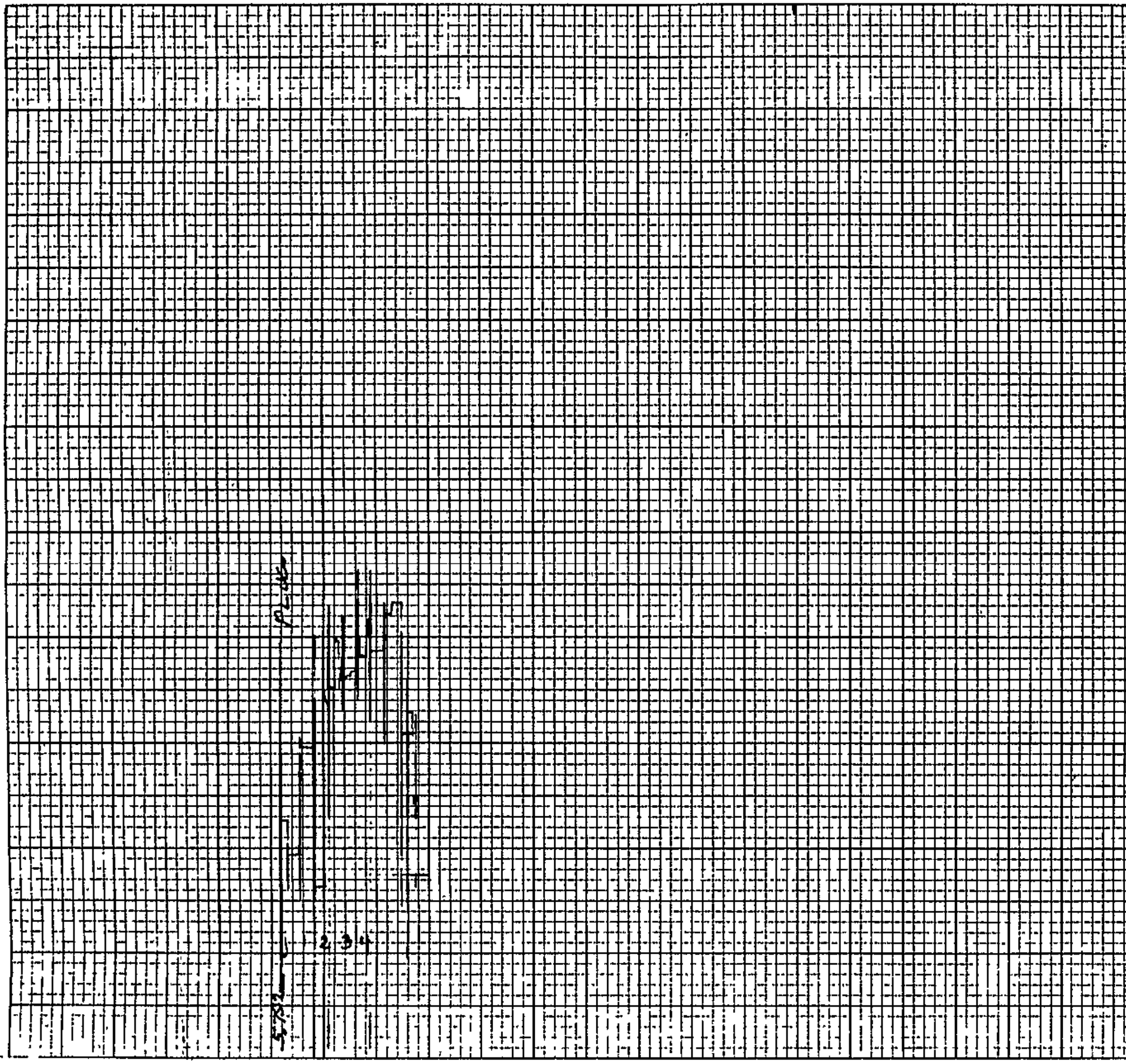
V_j = 2415 f/s, h = 1.19 in.



NO. XY 1011

1181

RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK



DATE: 5/6/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 1514	
PLOT IDENTIFICATION : G - 697	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

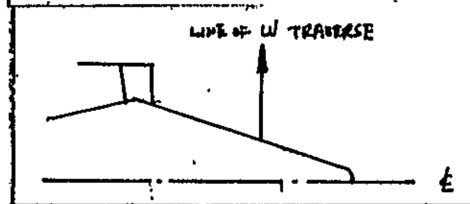
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.3 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 5/6/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G-698

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

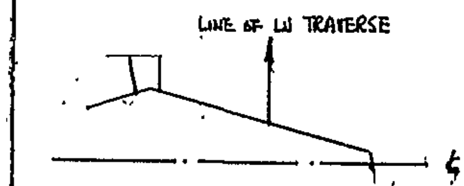
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

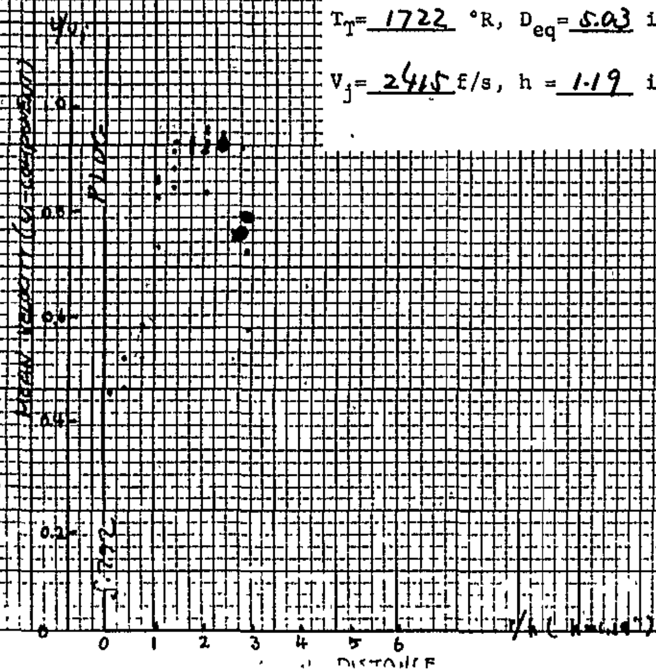
HISTOGRAMS: H- TO H-

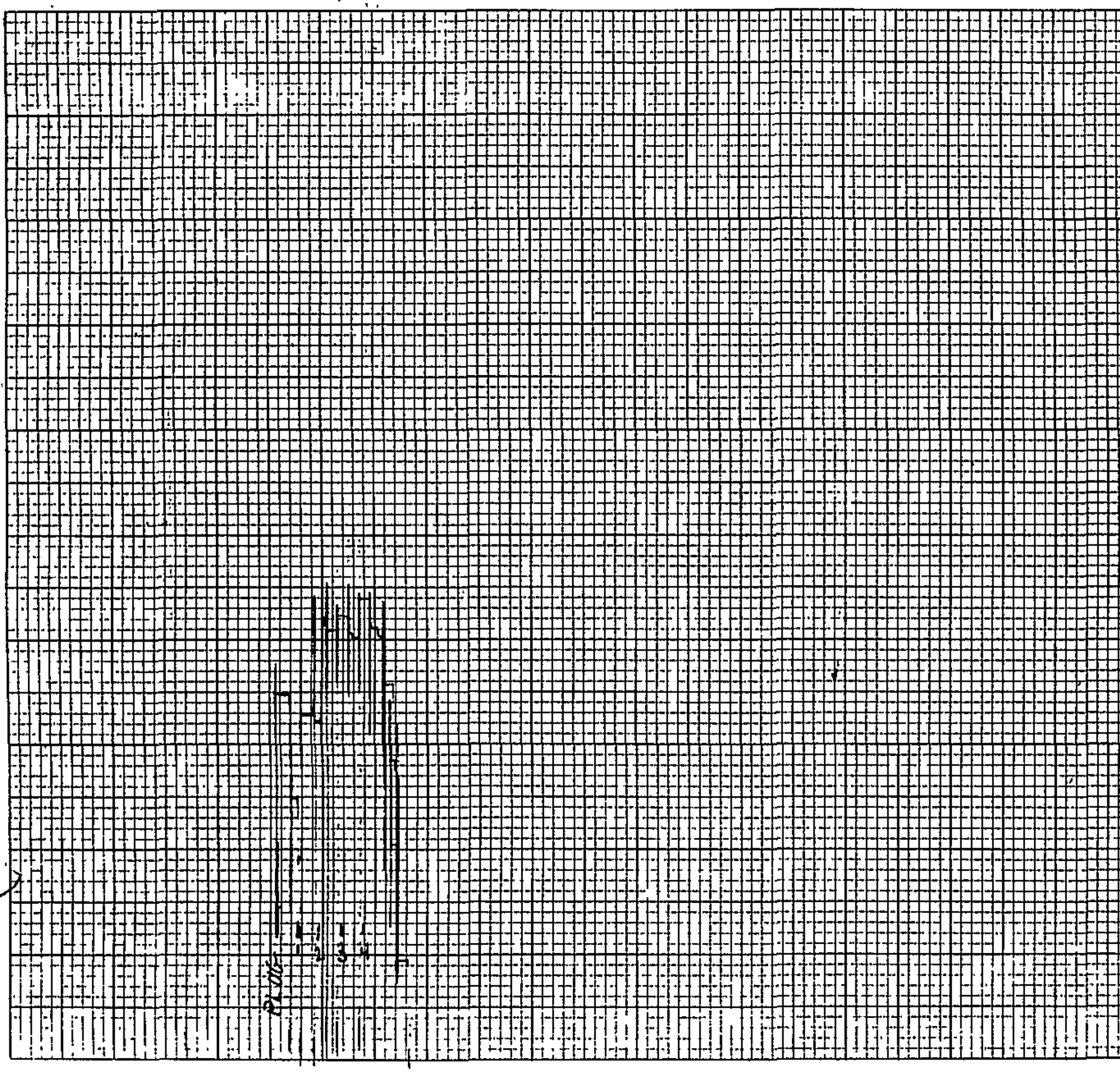


P_r= 3.128 , $V_{a/c}$= 400 f/s

T_T= 1722 °R, D_{eq}= 5.03 in.

V_j= 2415 f/s, h = 1.19 in.





DATE: 5/6/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 1514

PLOT IDENTIFICATION : G - 699

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

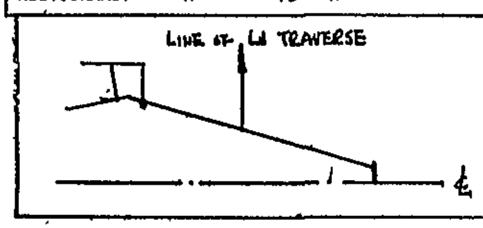
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1184

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DATE: 5/6/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC -1514

PLOT IDENTIFICATION : G-700

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

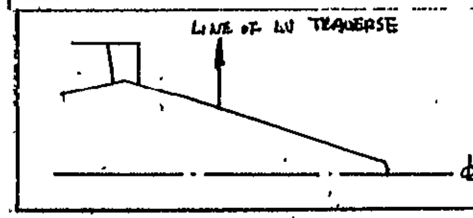
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

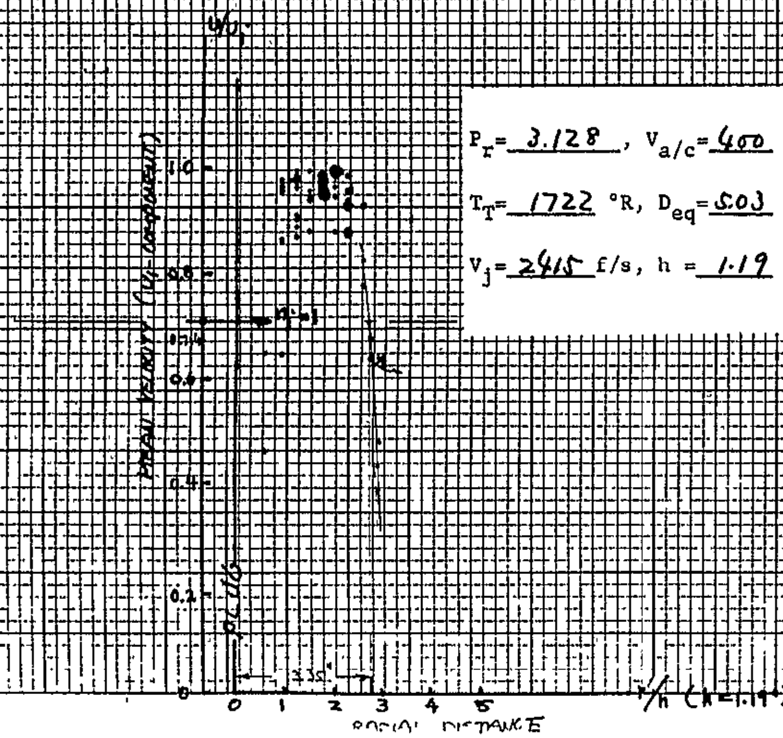
HISTOGRAMS: H- TO H-

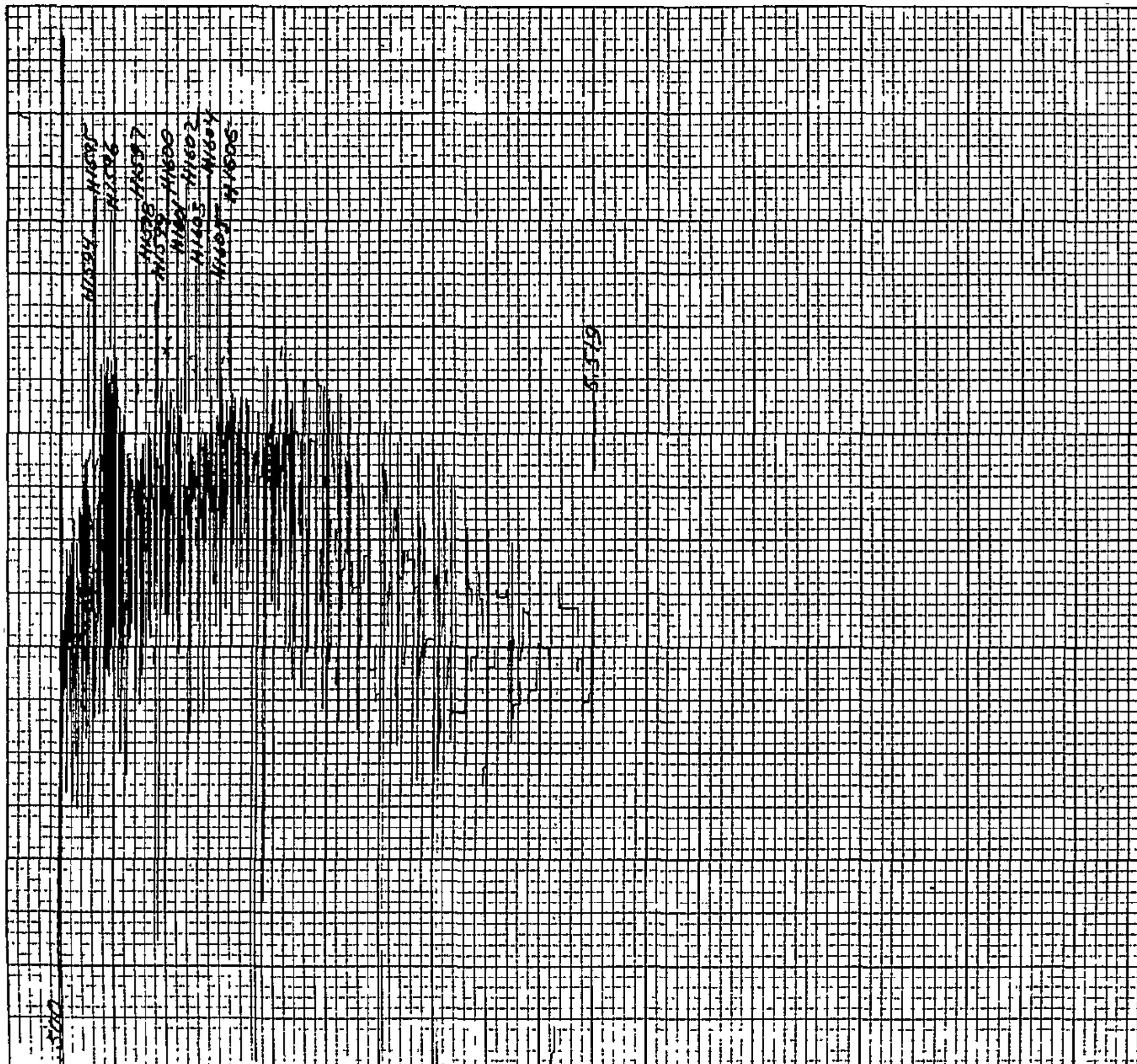


P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1722 °R, D_{eq} = 5.03 in.

V_j = 2415 f/s, h = 1.19 in.





DATE: 5/7/82	NOZZLE: # 5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 701	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - □ ; OFFSET - □

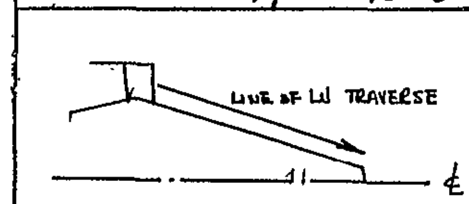
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

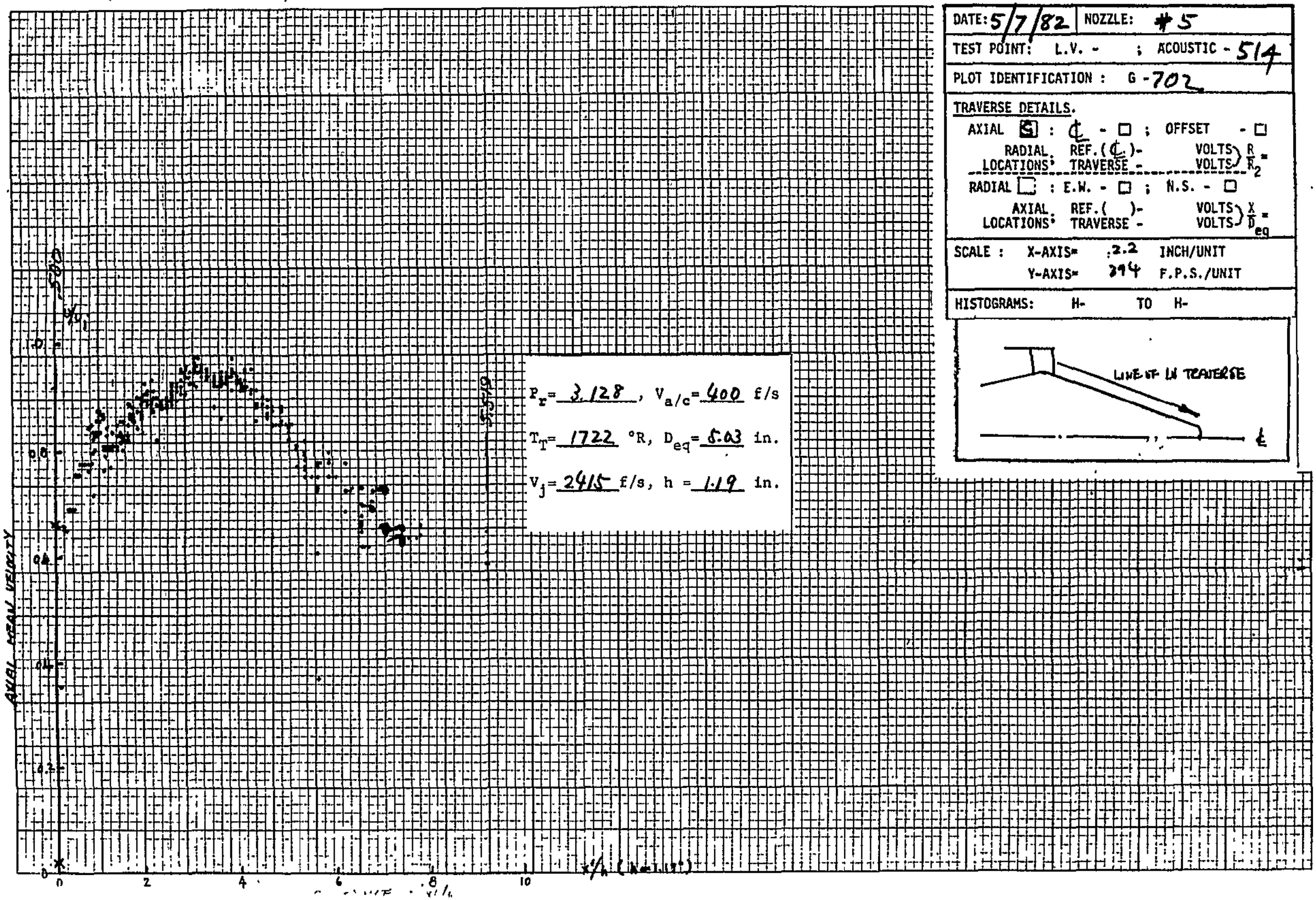
RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.2 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1594 TO H-1606





DATE: 5/7/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G-702

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= .2.2 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1722 °R, D_{eq} = 5.03 in.

V_j = 2415 f/s, h = 1.19 in.

1188

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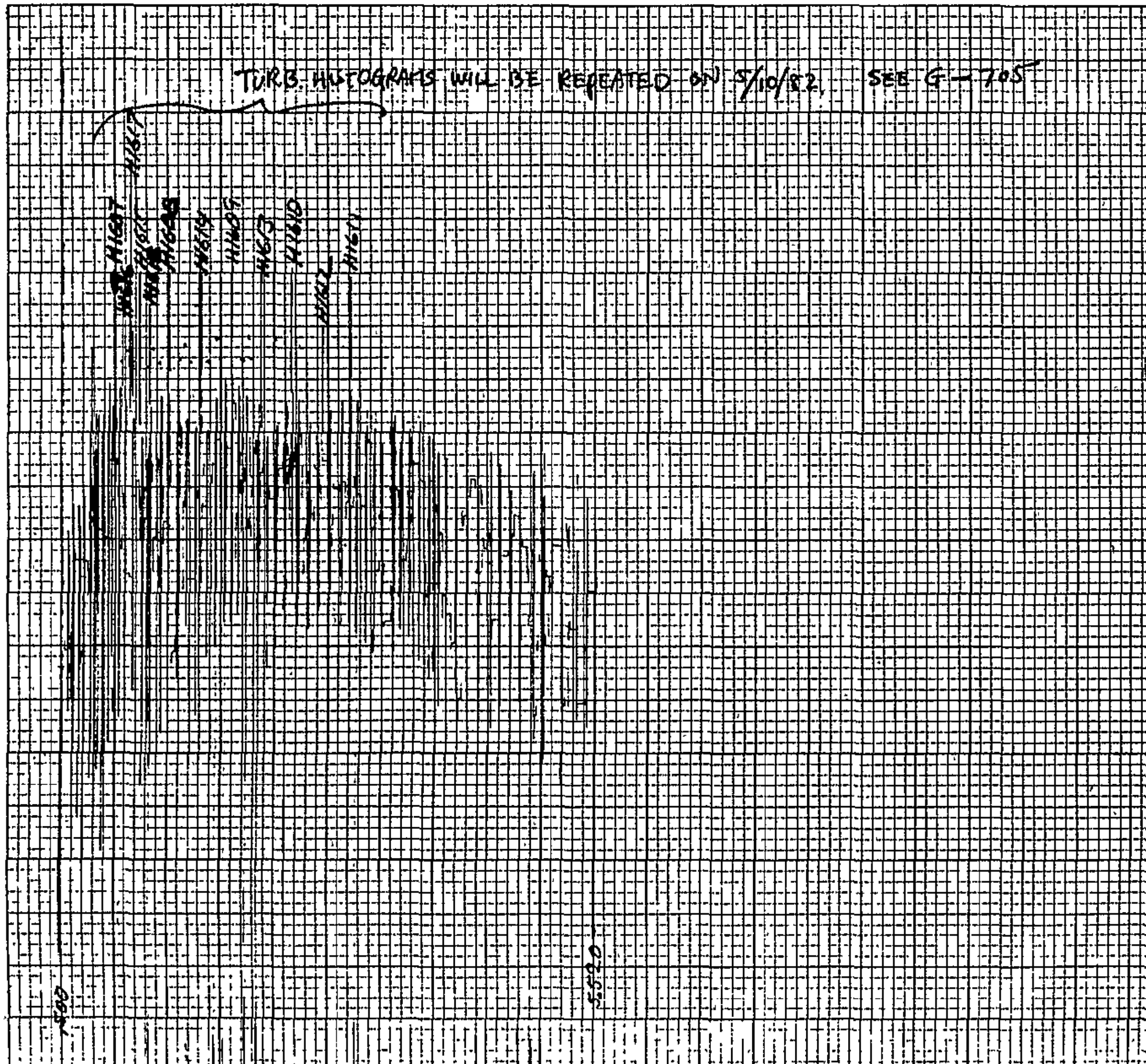
TURB. HISTOGRAMS WILL BE REPEATED ON 5/10/82. SEE G-705



DATE: 5/7/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 703	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

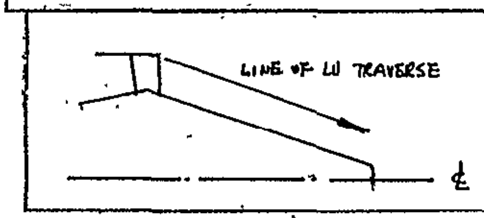
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.2 INCH/UNIT

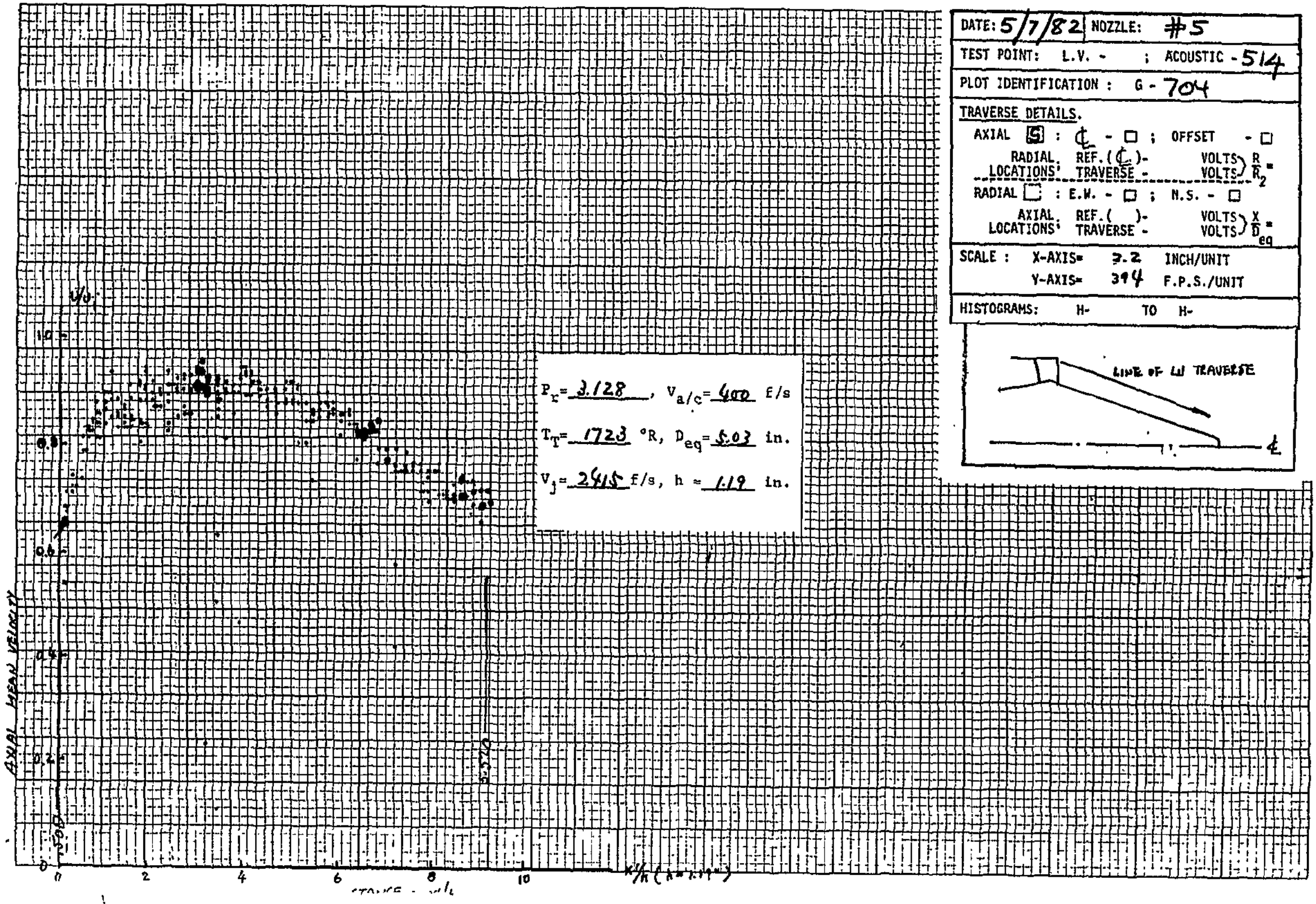
Y-AXIS= 394 F.P.S./UNIT

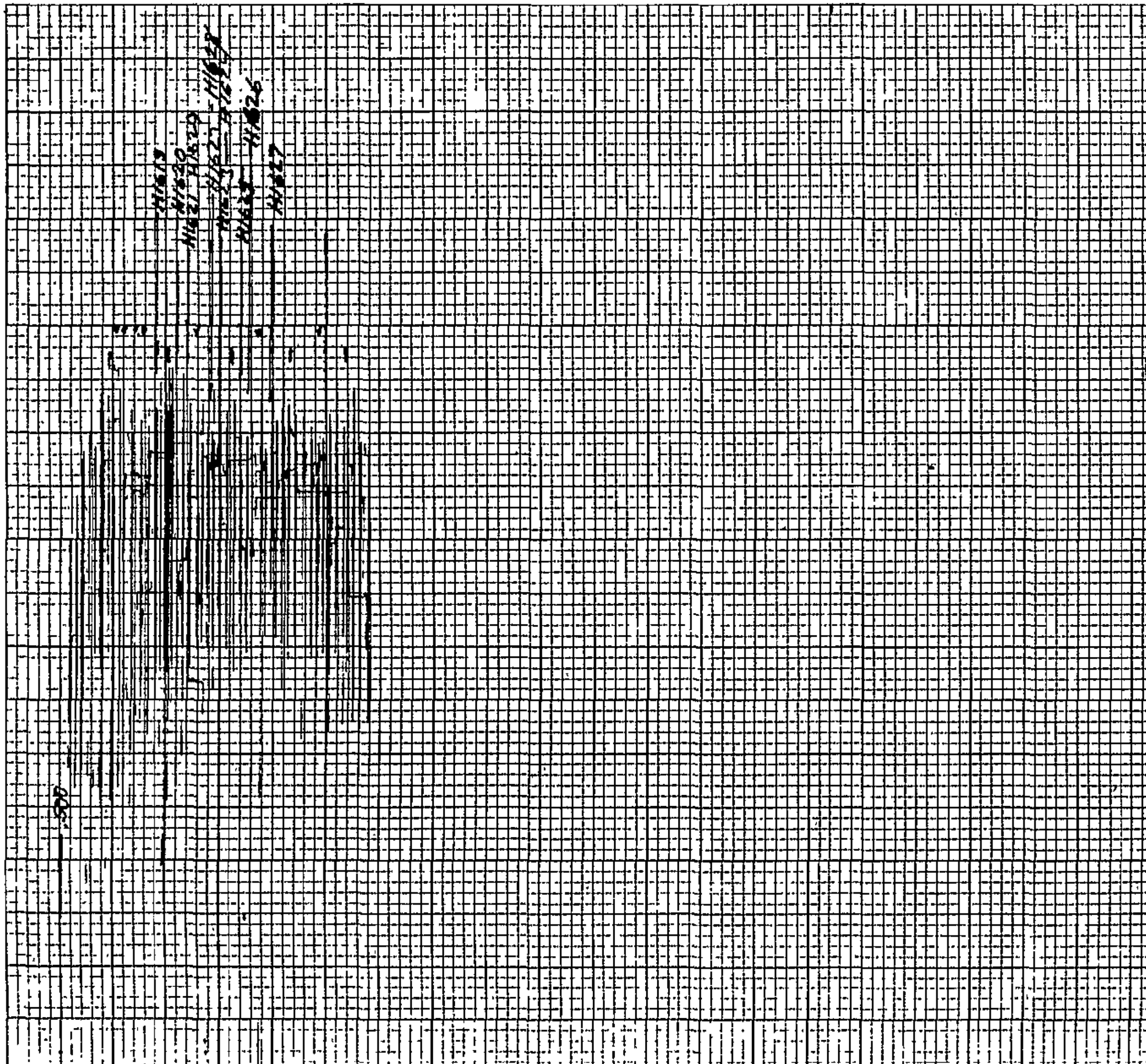
HISTOGRAMS: H- TO H-



NO. XY 1011

1189


DATE: 5/7/82 NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514
PLOT IDENTIFICATION : G - 704
TRAVERSE DETAILS.
AXIAL ; ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 3.2 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.128, Va/c= 400 f/s
TT= 1723 °R, Deq= 5.03 in.
Vj= 2415 f/s, h = 1.19 in.
U/Uj
AXIAL MEAN VELOCITY
1.0
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
x/h (h = 1.19")
5.570



DATE: 5/10/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 705	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

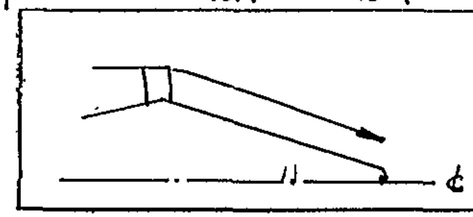
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.2 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- 1619 TO H- 1629



DATE: 5/10/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 706	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

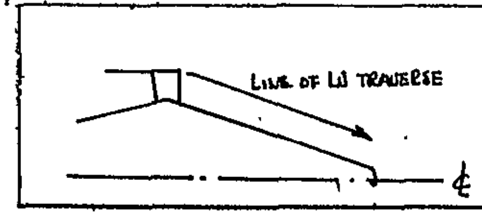
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

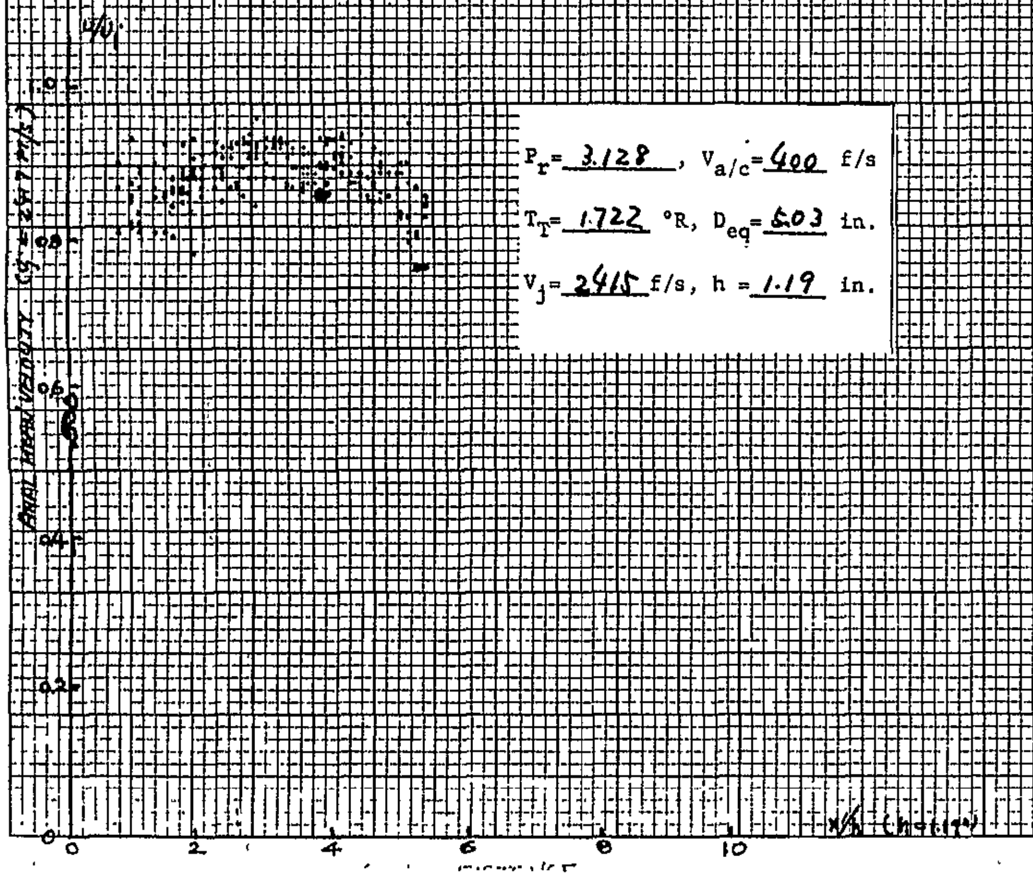
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.2 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

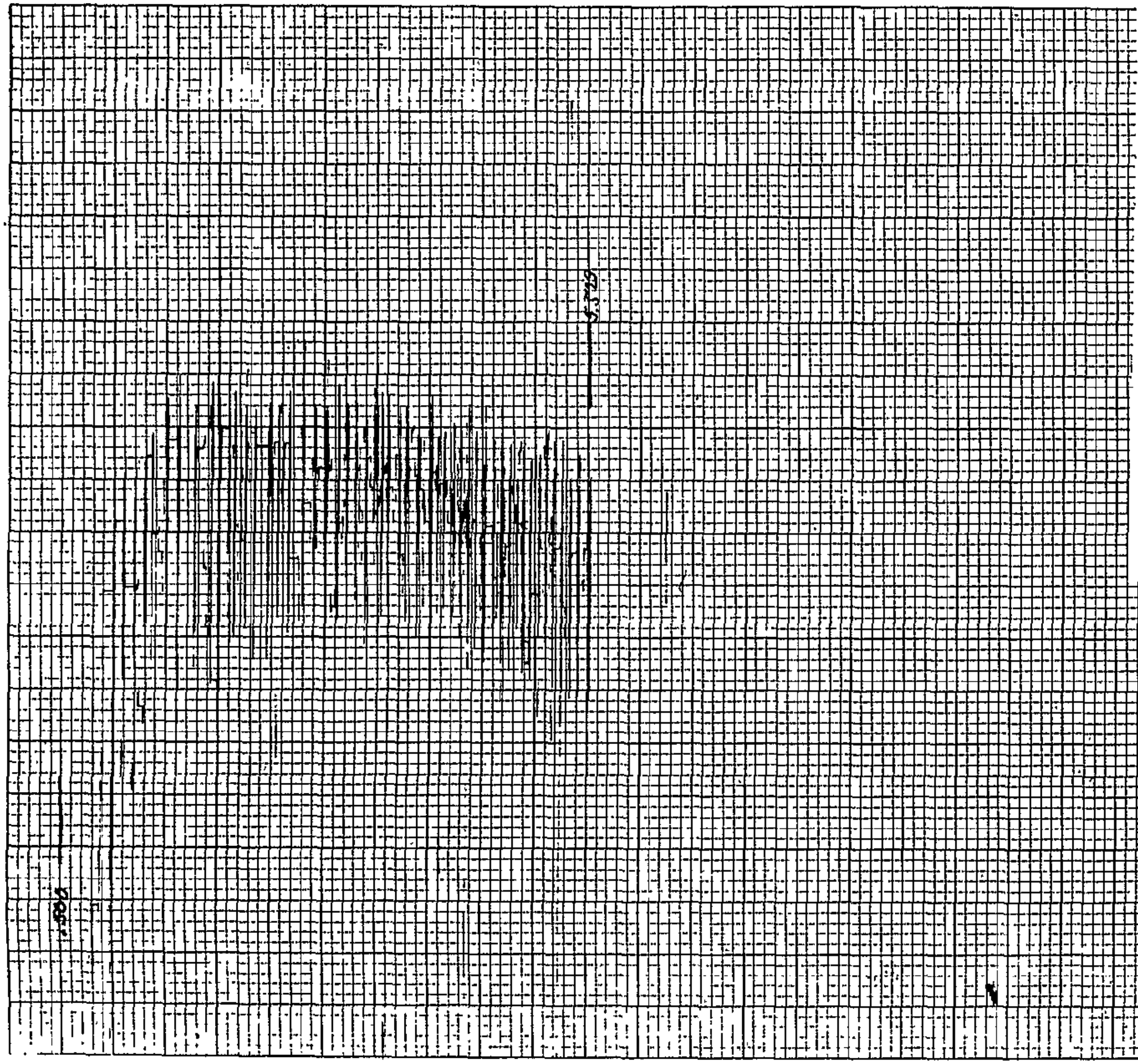




P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1722 °R, D_{eq} = 6.03 in.

V_j = 2415 f/s, h = 1.19 in.



DATE: 5/10/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 707	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

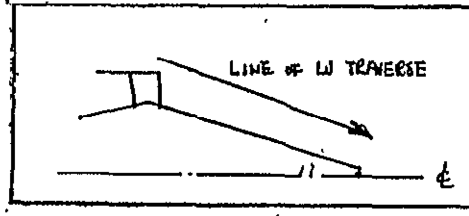
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= .2.2 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

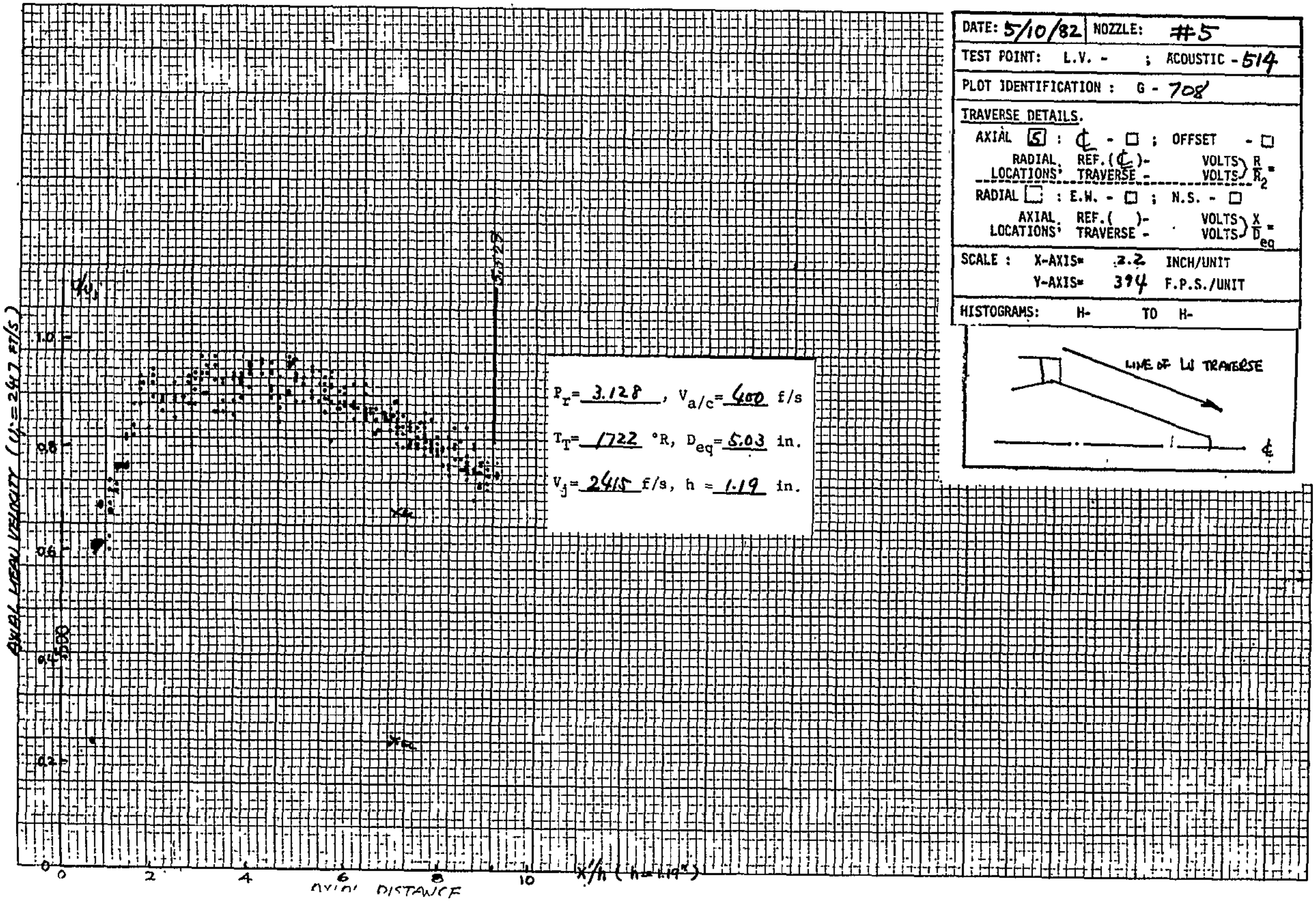
HISTOGRAMS: H- TO H-

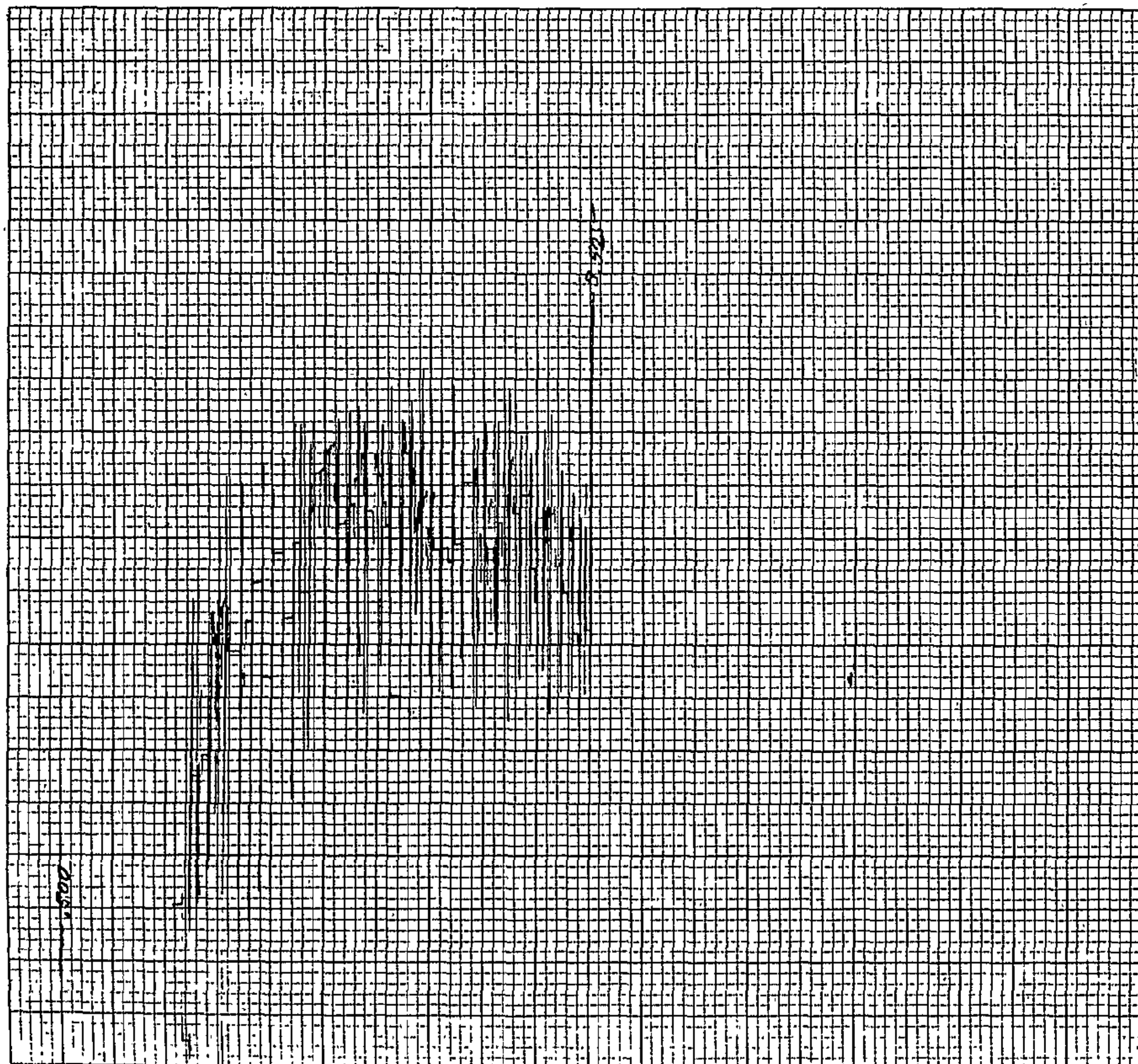


NO. XY 1101

1193

RECORDING CHARTS


DATE: 5/10/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514
PLOT IDENTIFICATION : G - 708
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 2.2 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.128 , Va/c= 400 f/s
TT= 1722 °R, Deq= 5.03 in.
Vj= 2415 f/s, h = 1.19 in.
U/Uj
AXIAL MEAN VELOCITY (Uj = 2417 FT/S)
1.0
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
X/h (h=1.19")
AXIAL DISTANCE



DATE: 5/10/82	NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 709

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

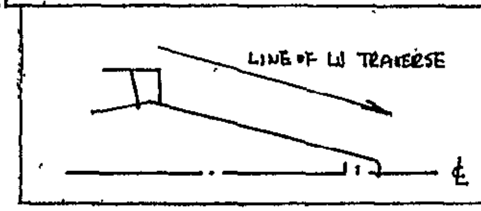
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.2 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 5/10/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 710	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

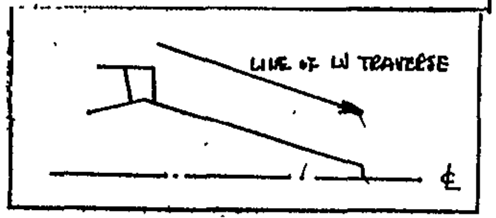
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

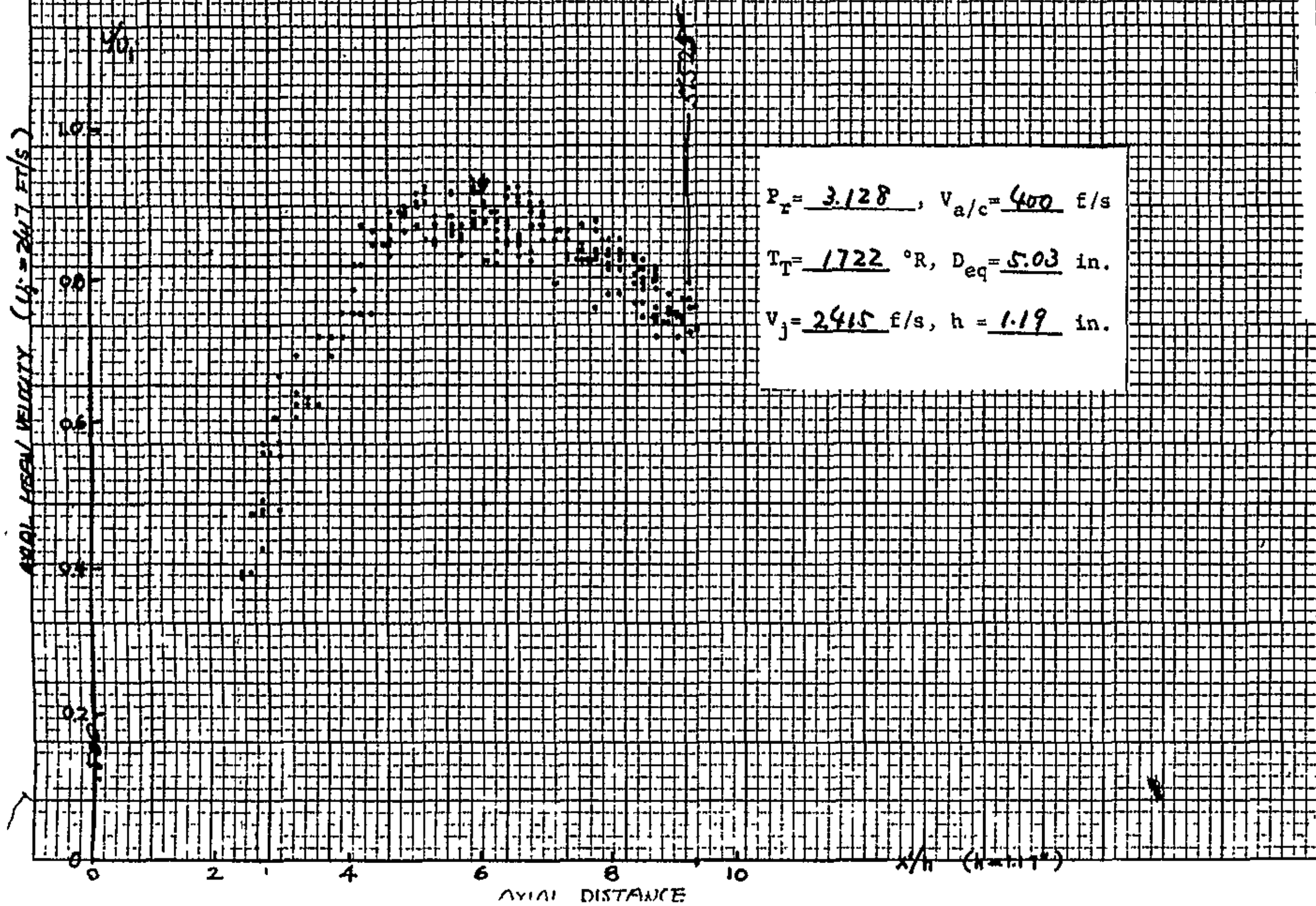
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= .2.2 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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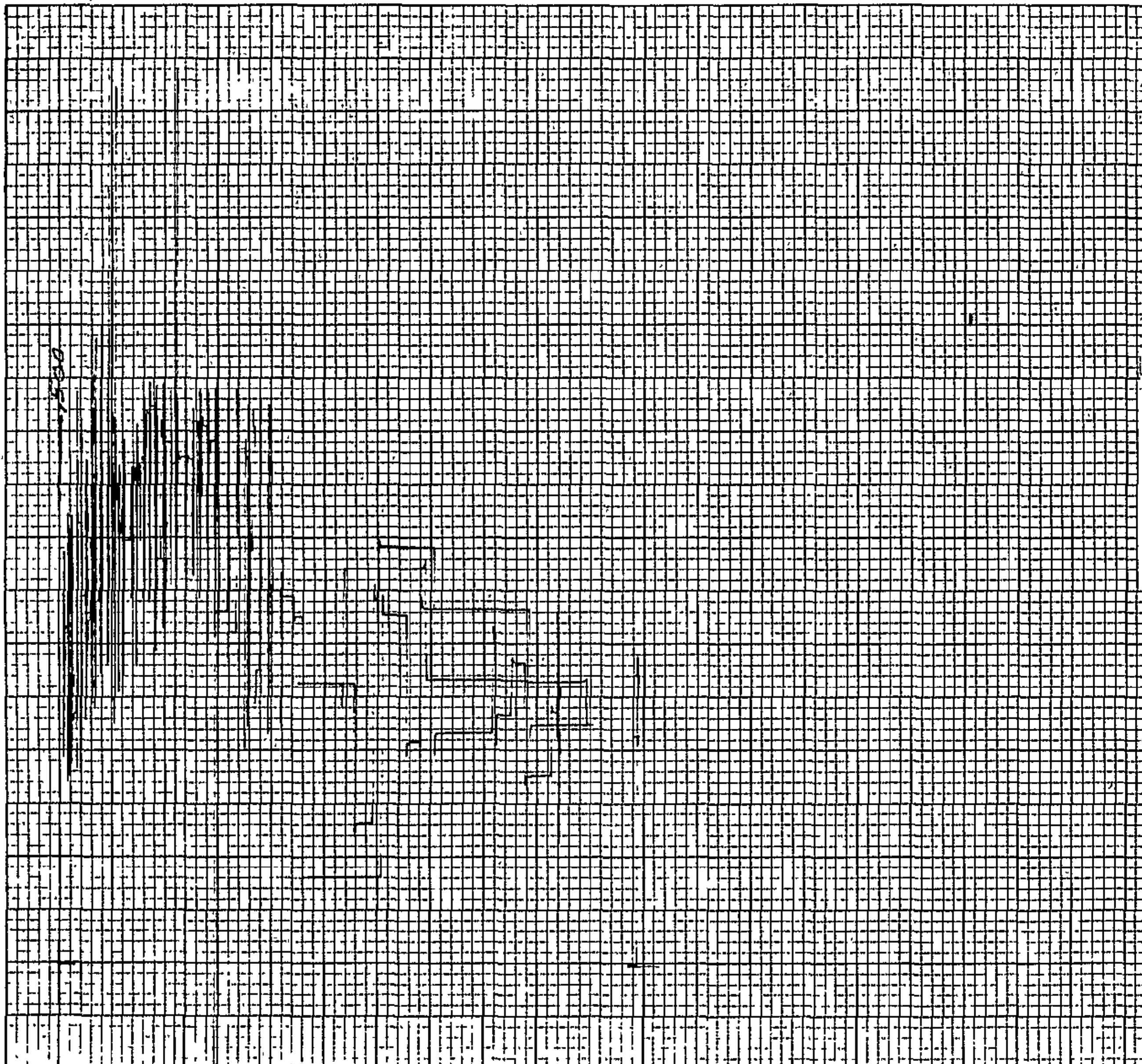


DATE: 5/10/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 711

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$=

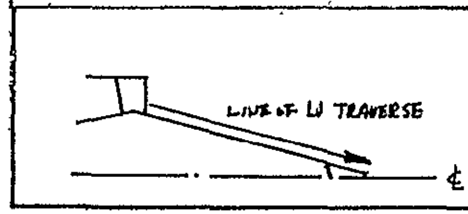
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$=

SCALE : X-AXIS= 2.2 INCH/UNIT

Y-AXIS= 374 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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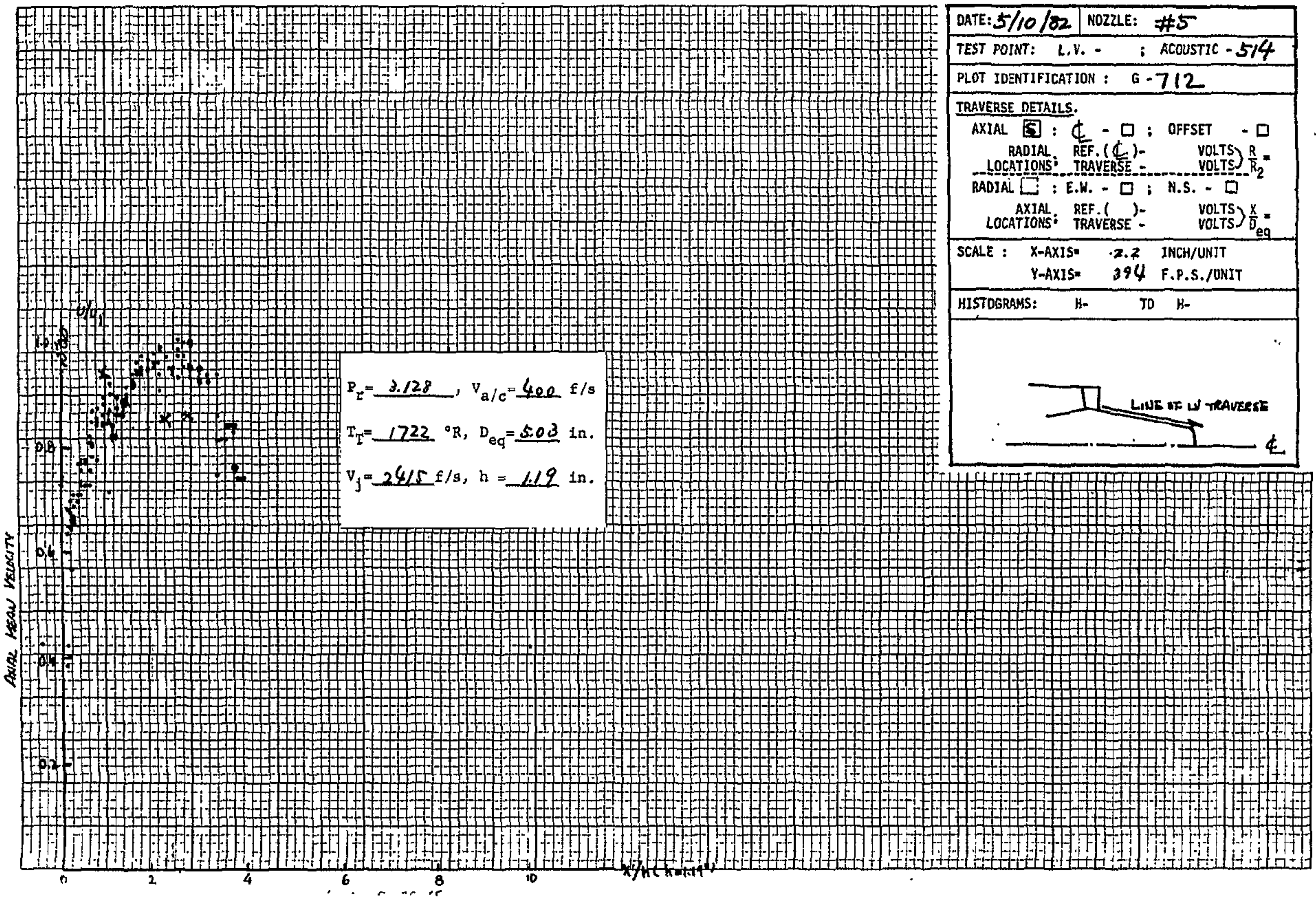
No. XY 1101

1197



NO. XY 1101

1198

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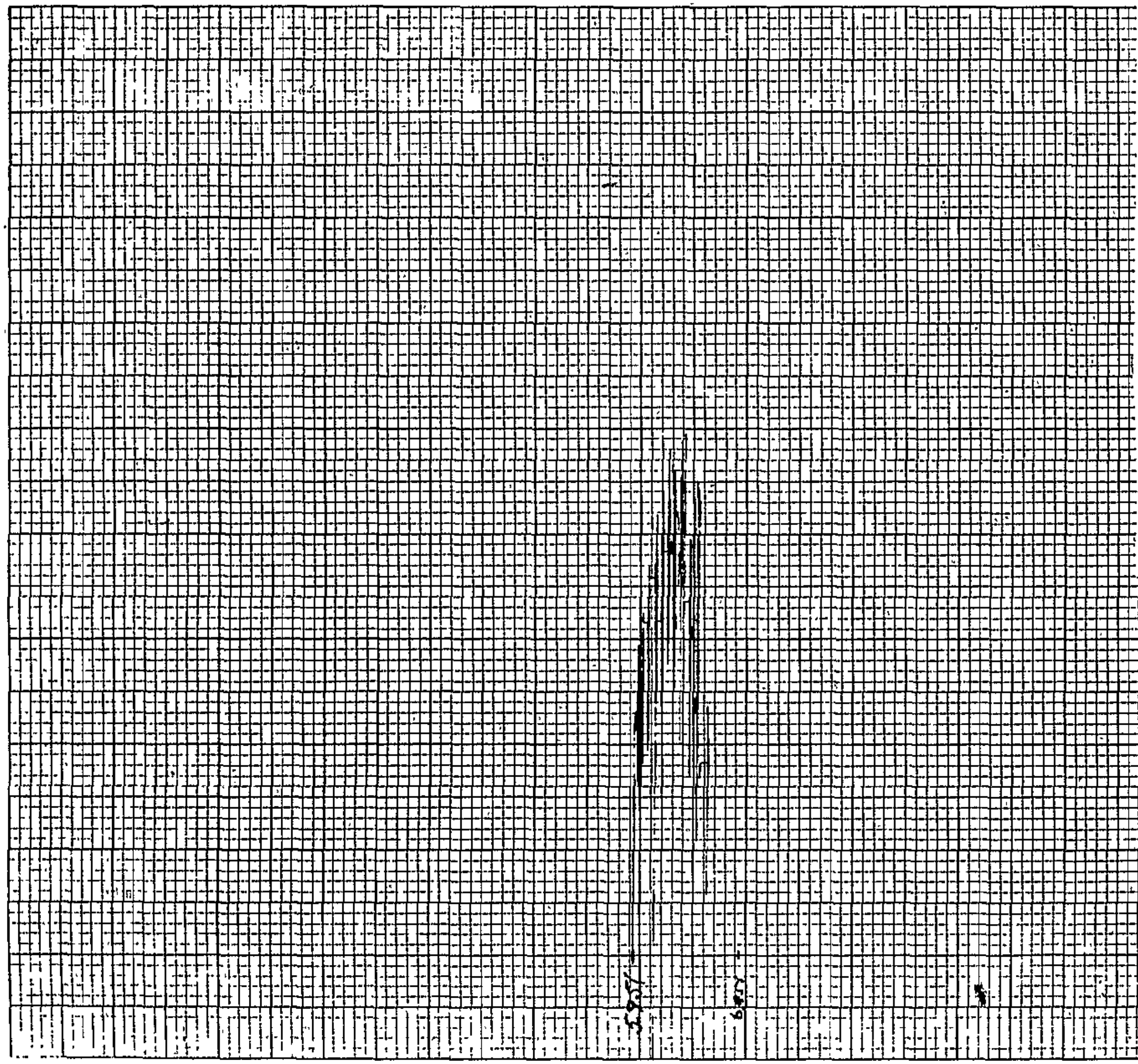


DATE: 5/10/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 713

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS) R/R_2 =

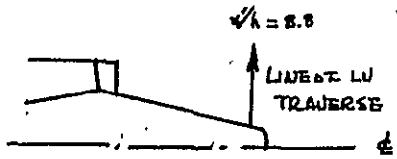
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS) X/D_{eq} =

SCALE : X-AXIS= 2.32 INCH/UNIT

Y-AXIS= 2.94 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 5/10/82	NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 714

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

x/h=8.8

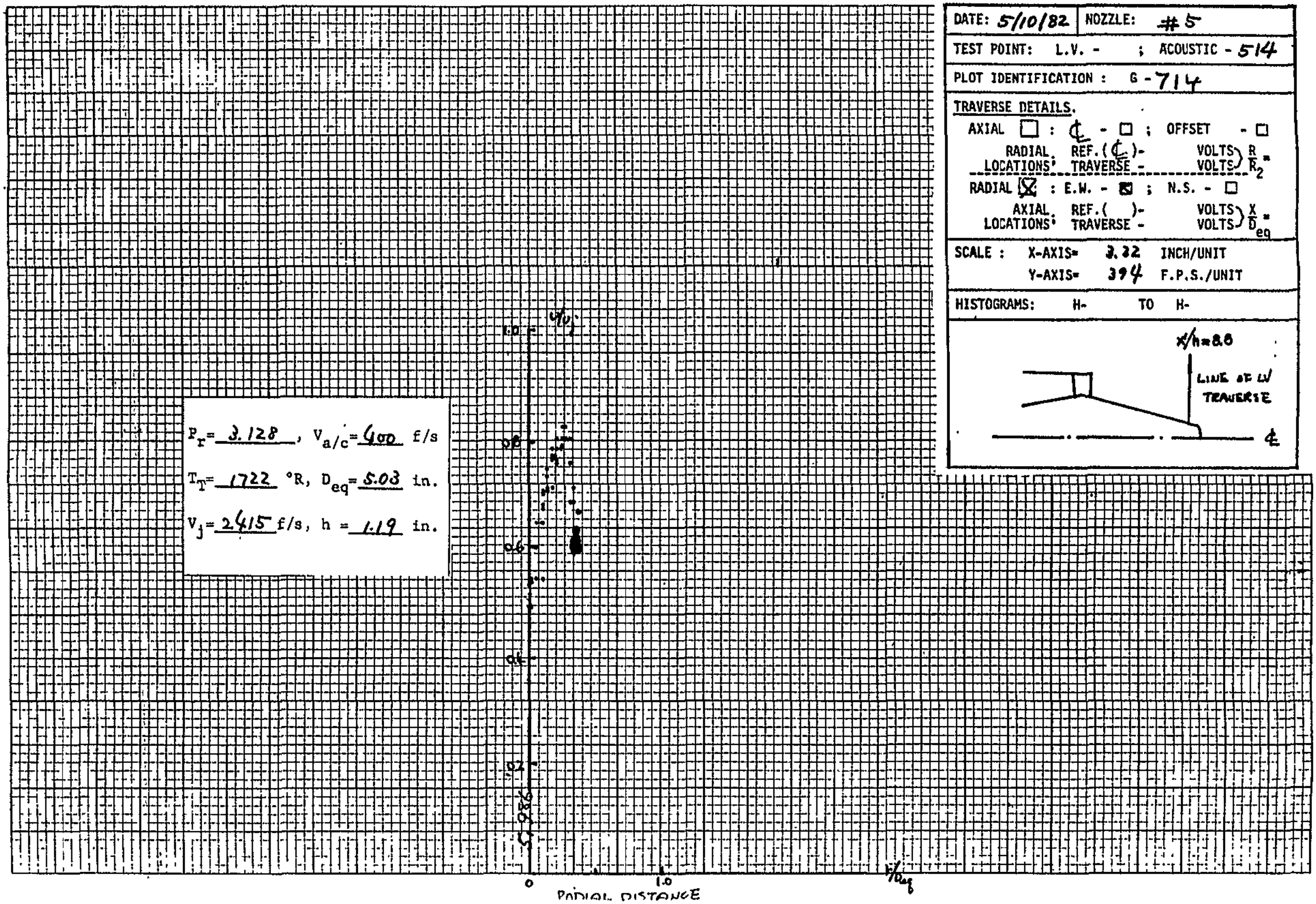
LINE OF LV TRAVERSE

℄

P_r = 3.128 , $V_{a/c}$ = 400 f/s

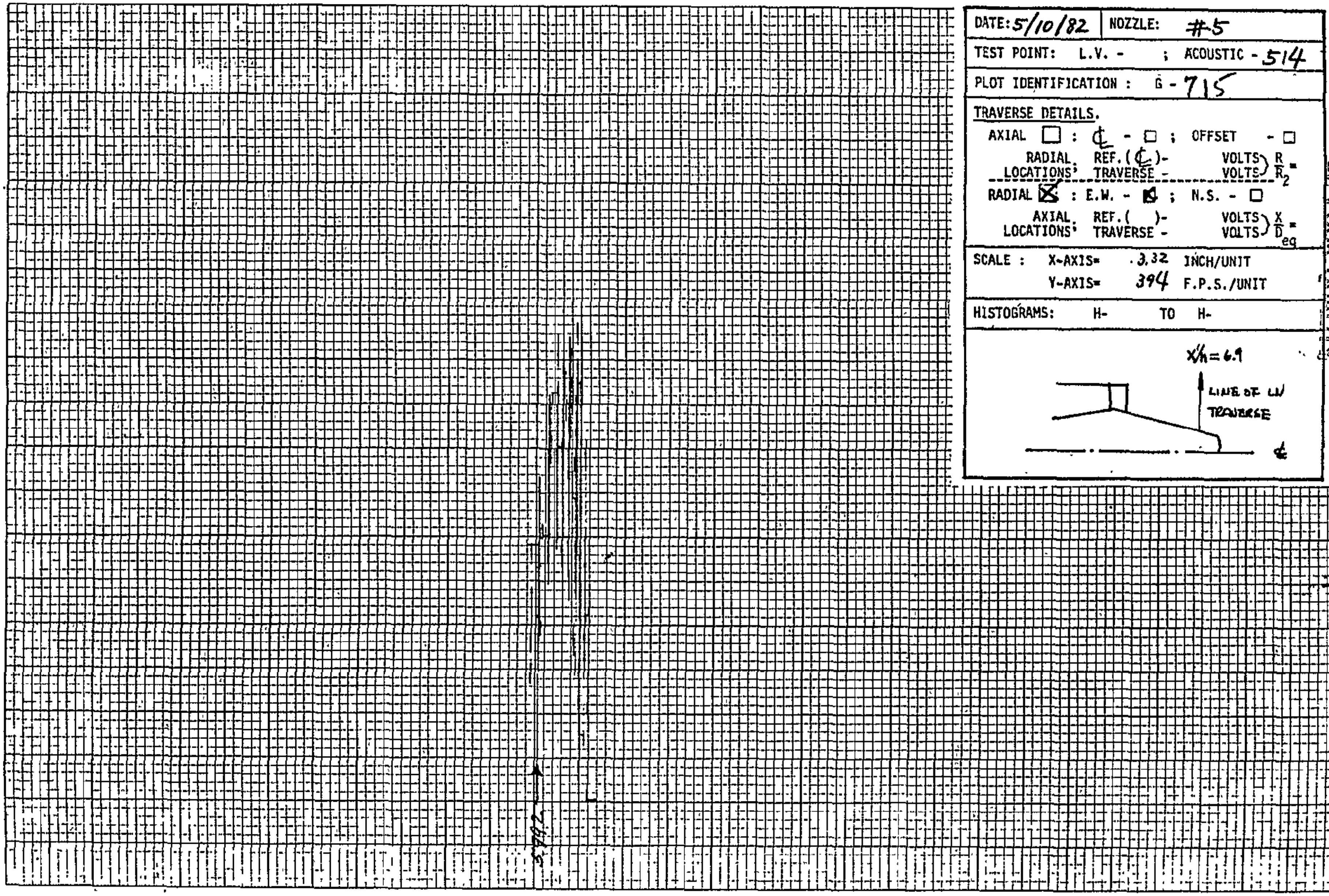
T_T = 1722 °R, D_{eq} = 5.03 in.

V_j = 2415 f/s, h = 1.19 in.



NO. XY 1101

1201



DATE: 5/10/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 715

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 3.32 INCH/UNIT

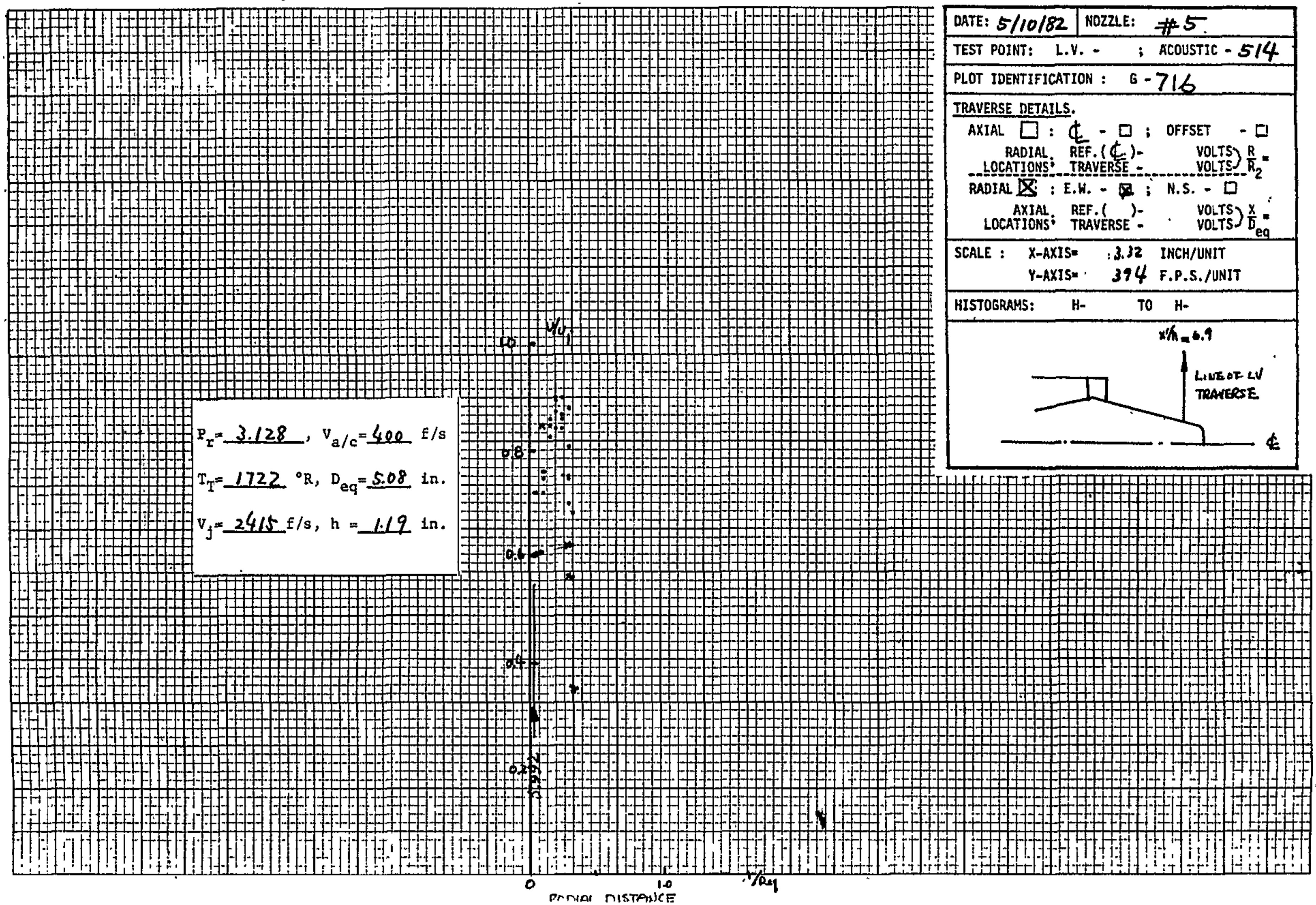
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

X/h = 6.9

LINE OF LV TRAVERSE

℄



NO. XY 1101

1202

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1203

DATE: 5/10/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 717	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

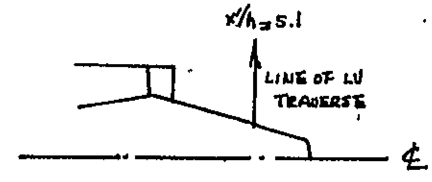
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

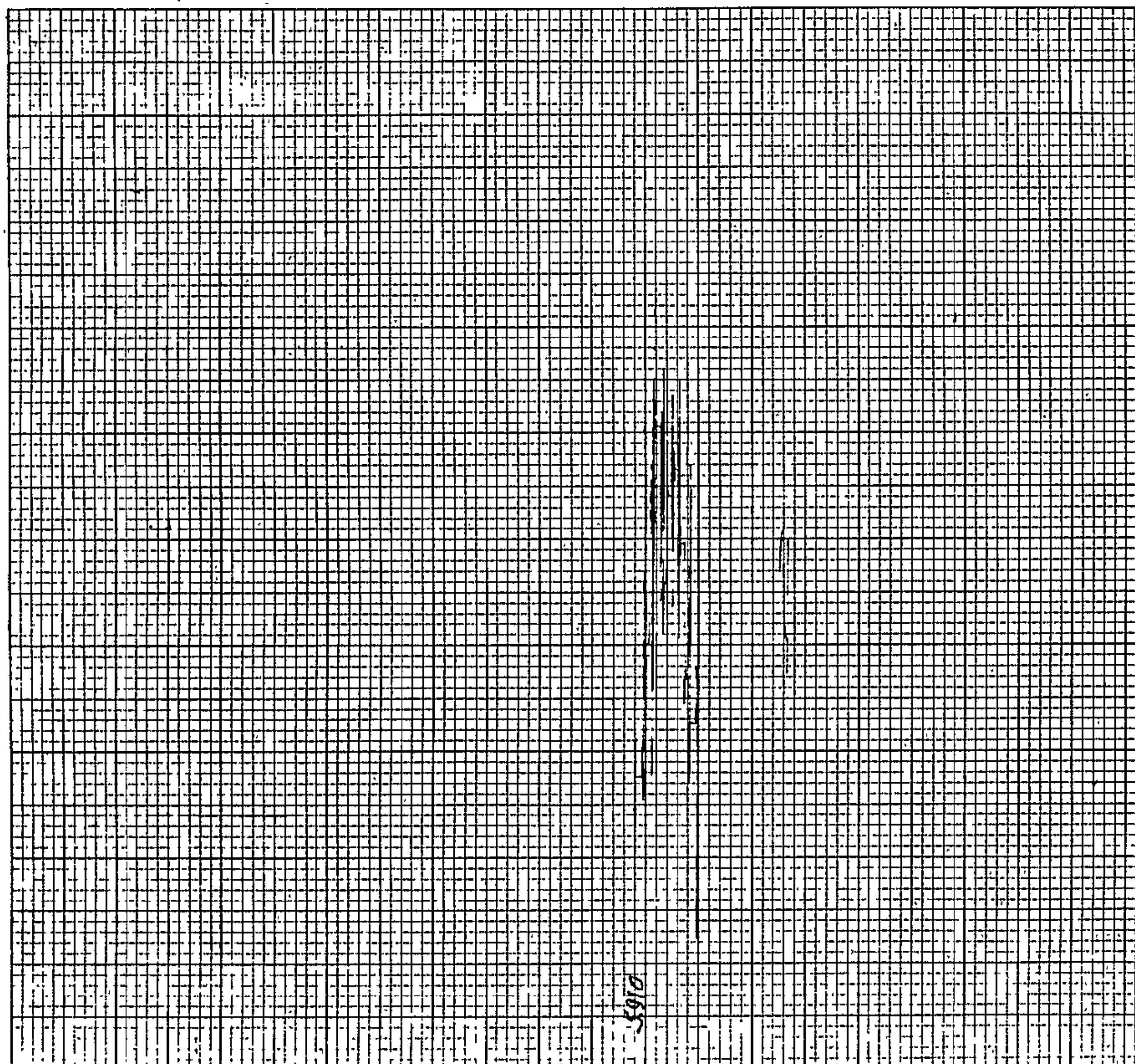
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

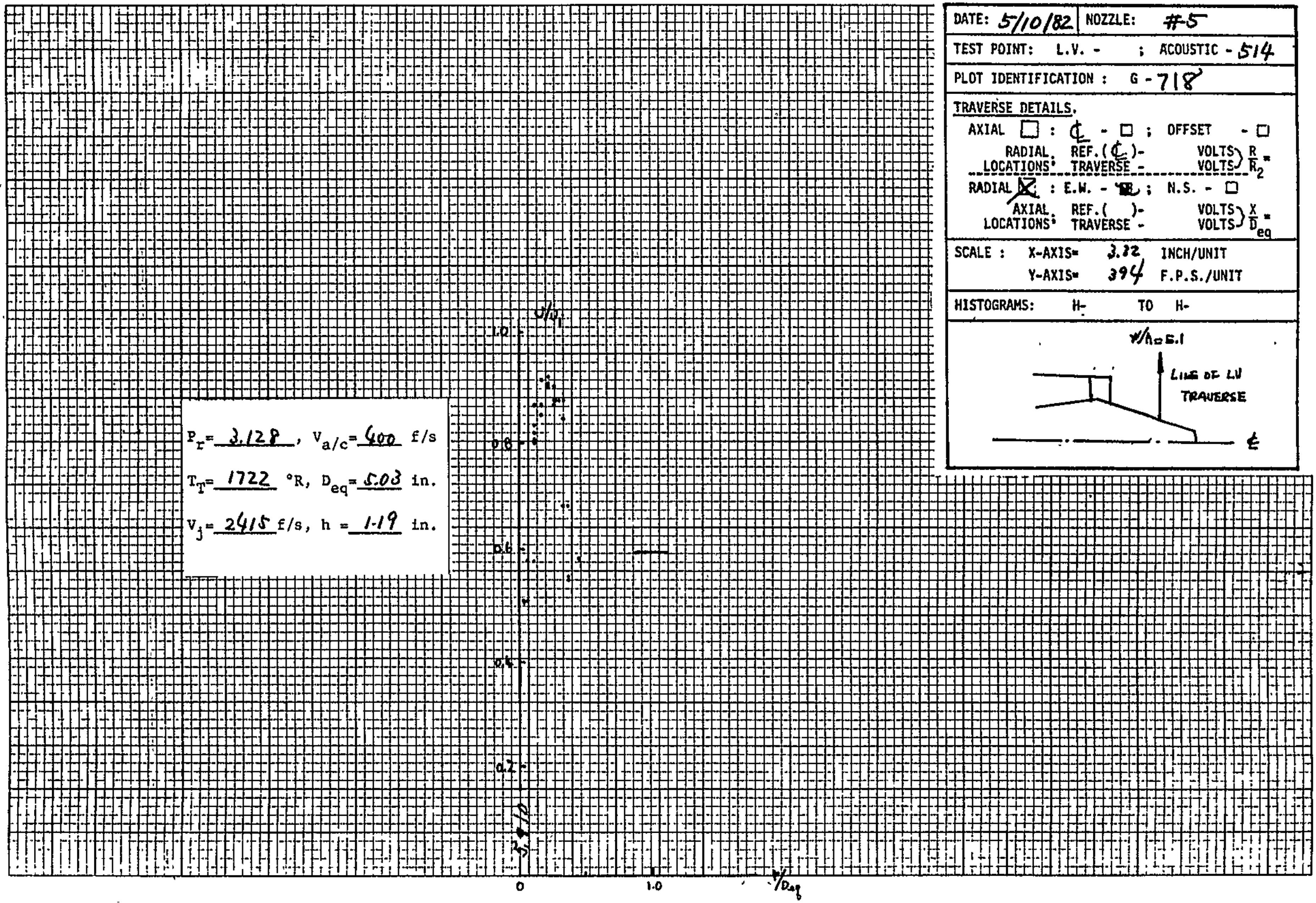
SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-






DATE: 5/10/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514
PLOT IDENTIFICATION : G - 718
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
X/h = 5.1
LINE OF LV TRAVERSE
℄
Pr = 3.128 , Va/c = 400 f/s
TT = 1722 °R, Deq = 5.03 in.
Vj = 2415 f/s, h = 1.19 in.
U/Vj
1.0
0.8
0.6
0.4
0.2
0
1.0
Y/Deq

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NO. XY 1011

1205

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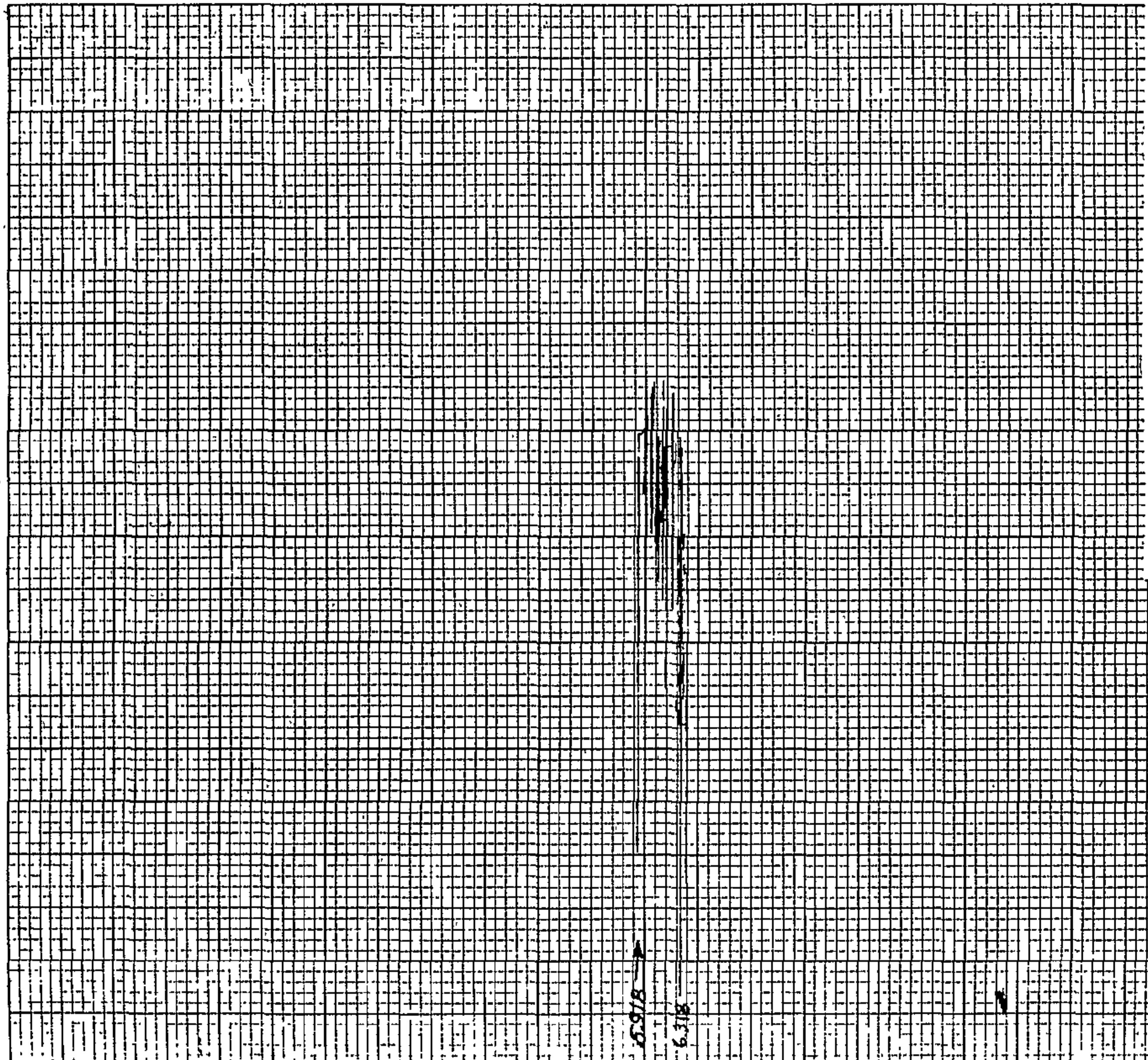


DATE: 5/10/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 719

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

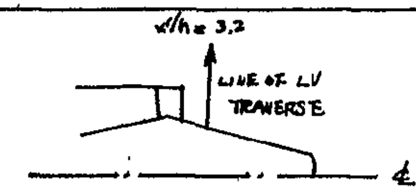
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

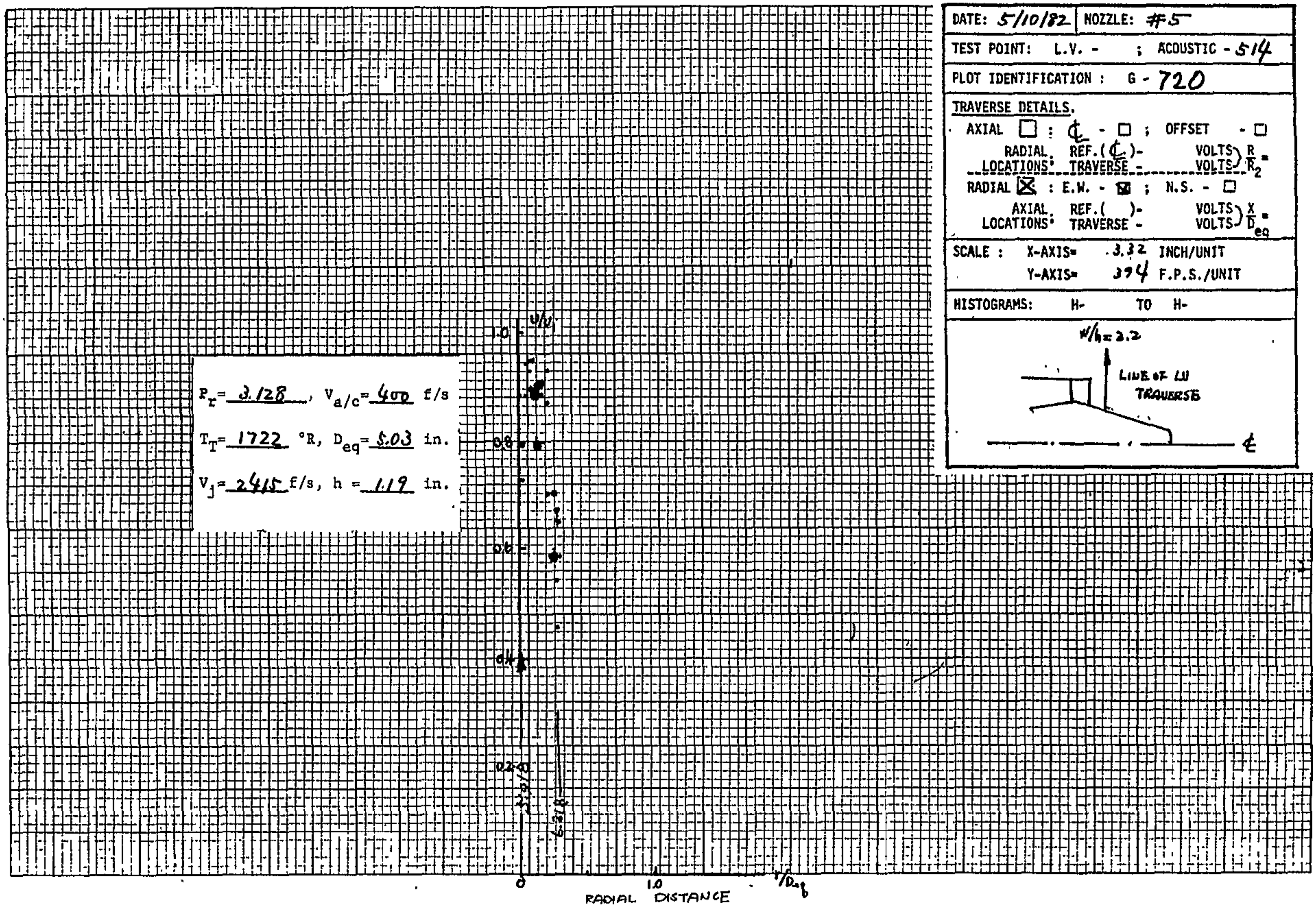
RADIAL ☒ : E.W. - ■ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-





NO. XY 101

1206

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No. XY 1101

1207

DATE: 5/12/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 721	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

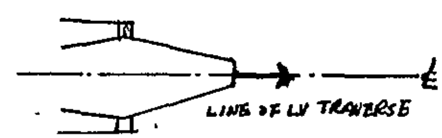
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ = 0

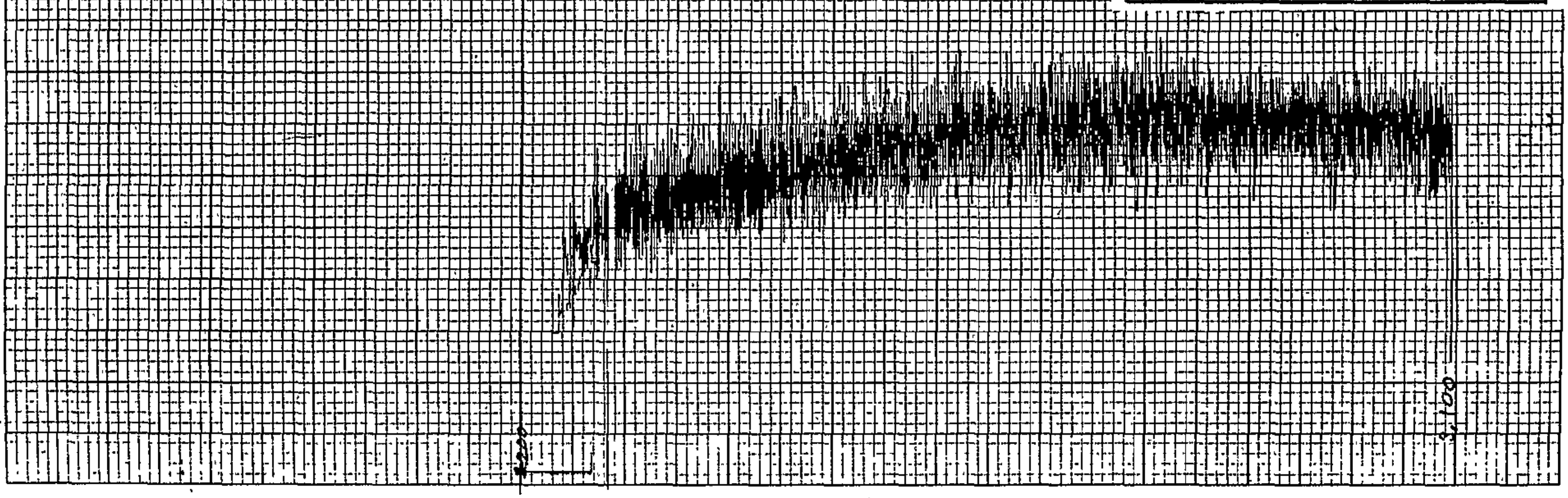
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

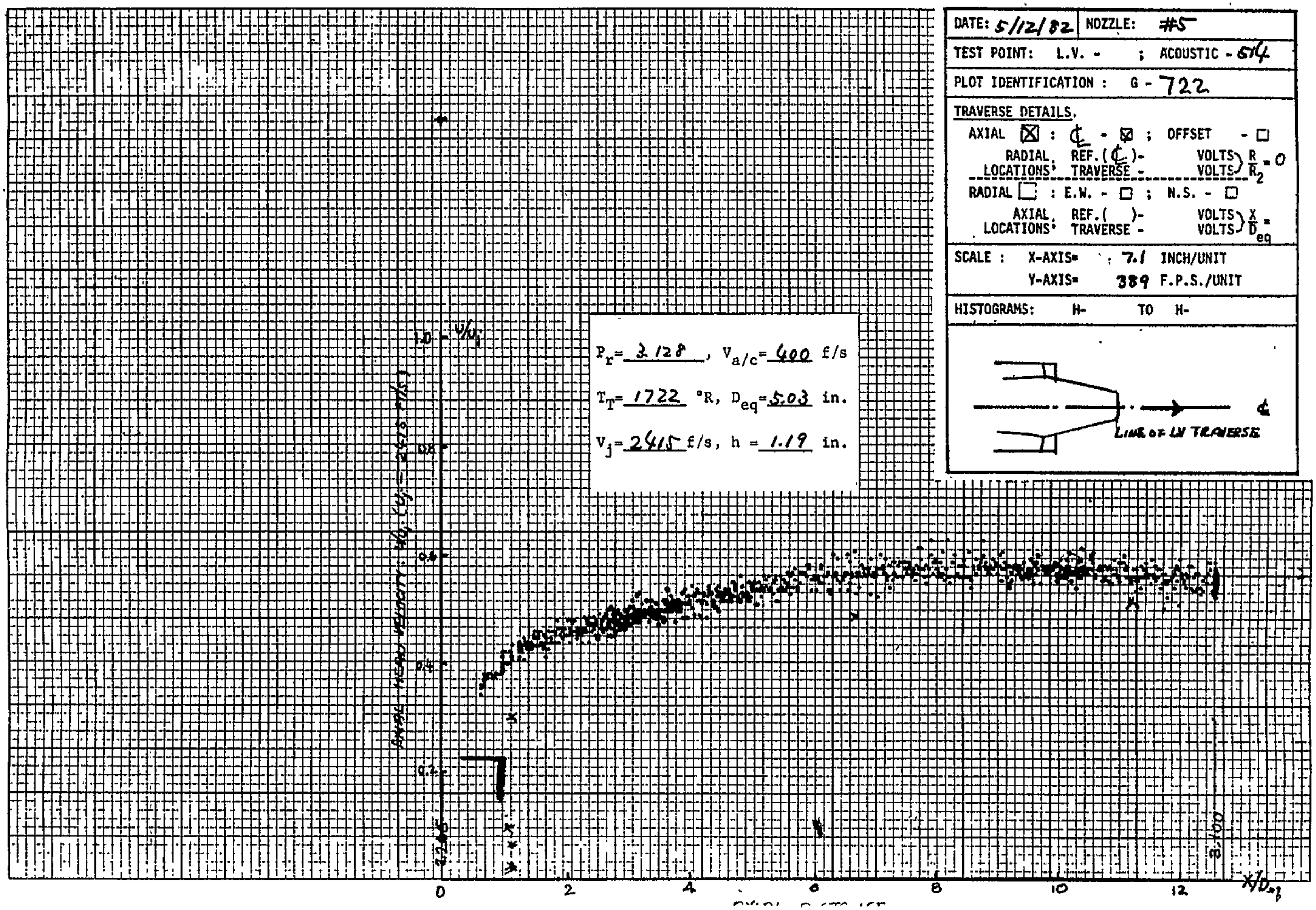
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.1 INCH/UNIT
Y-AXIS= 389 F.P.S./UNIT

HISTOGRAMS: H- TO H-







1208

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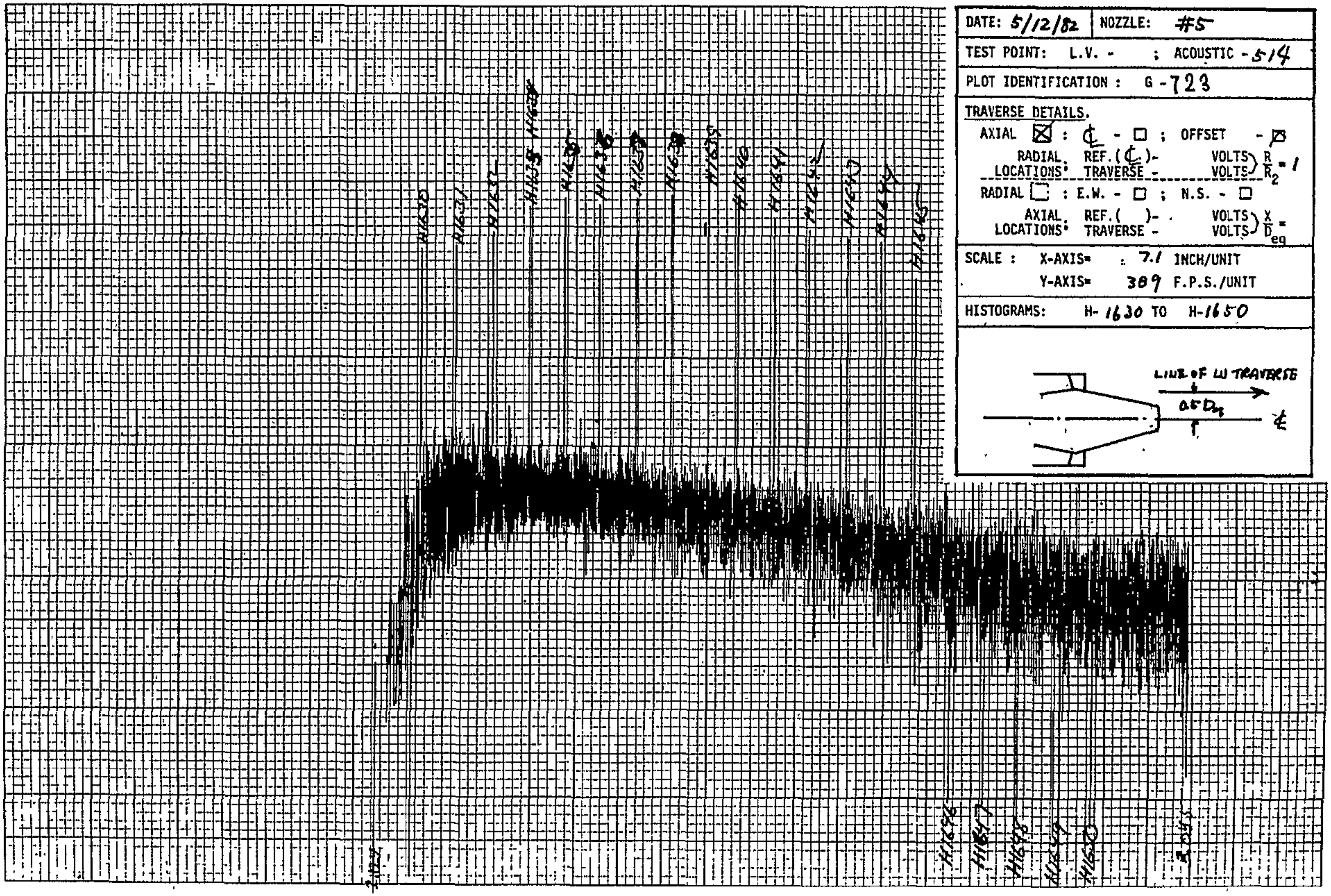
1209



DATE: 5/12/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 723	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS R/R_2 = 1

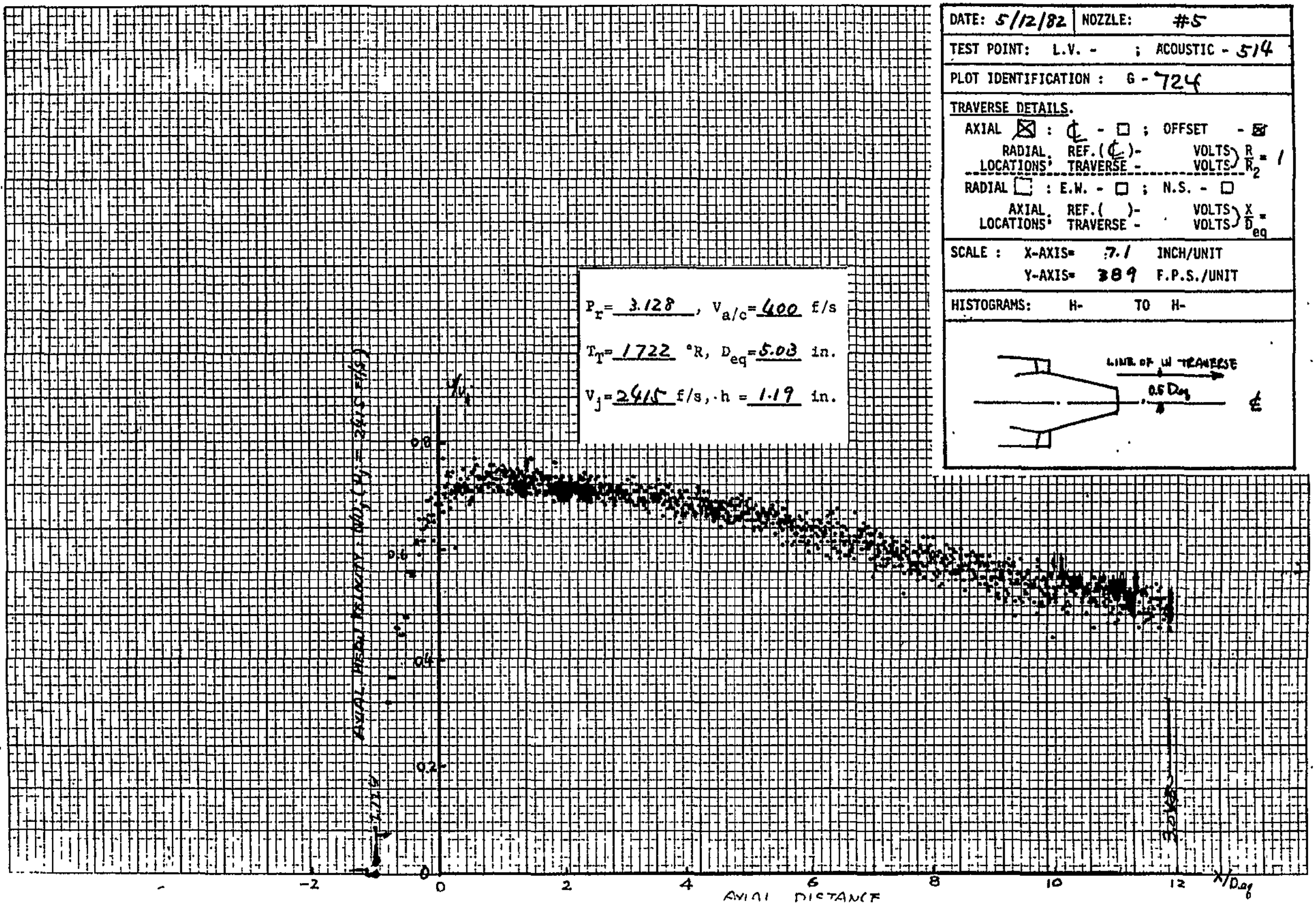
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 7.1 INCH/UNIT

Y-AXIS= 309 F.P.S./UNIT

HISTOGRAMS: H-1630 TO H-1650



1210

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DATE: 5/12/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 725

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

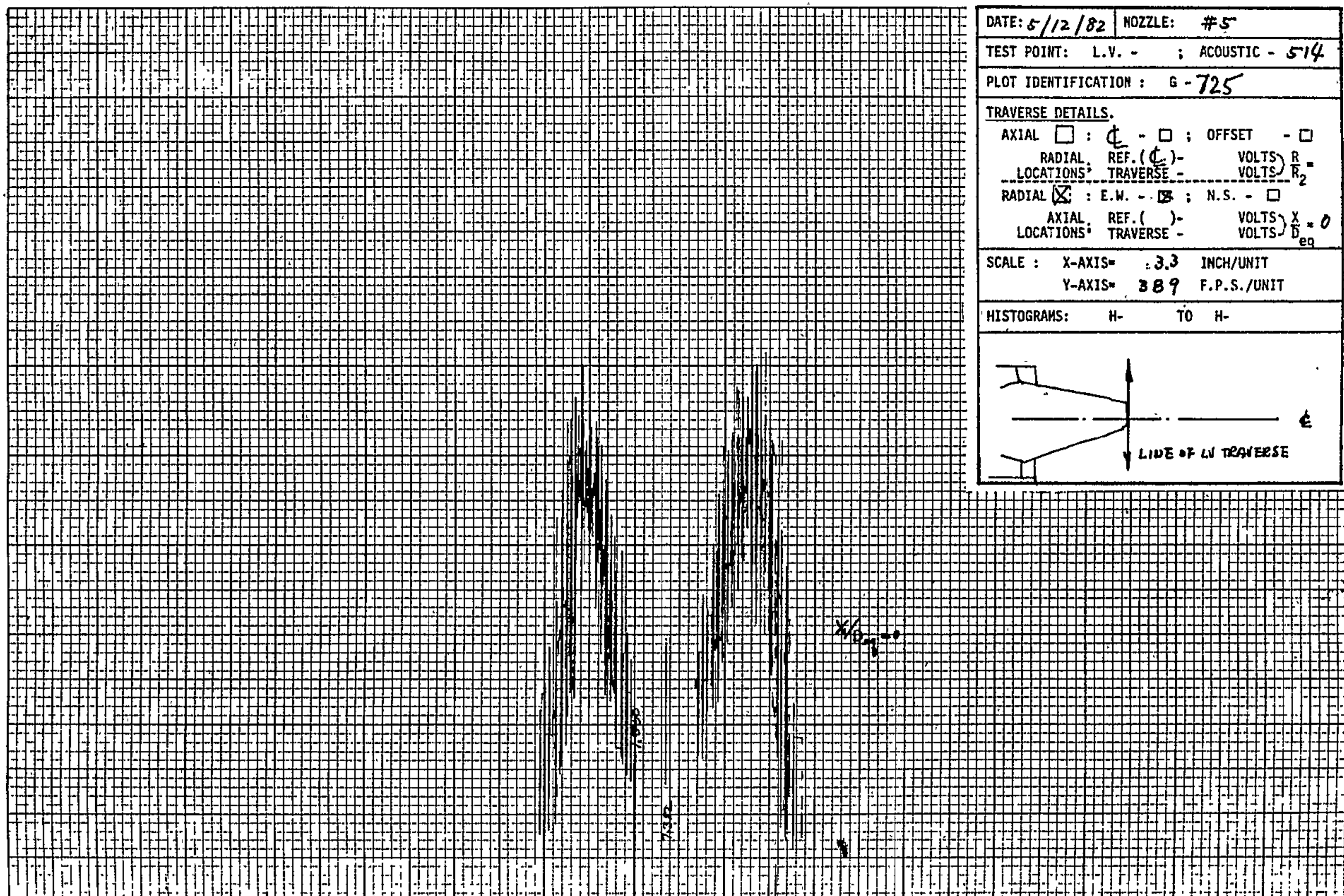
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0

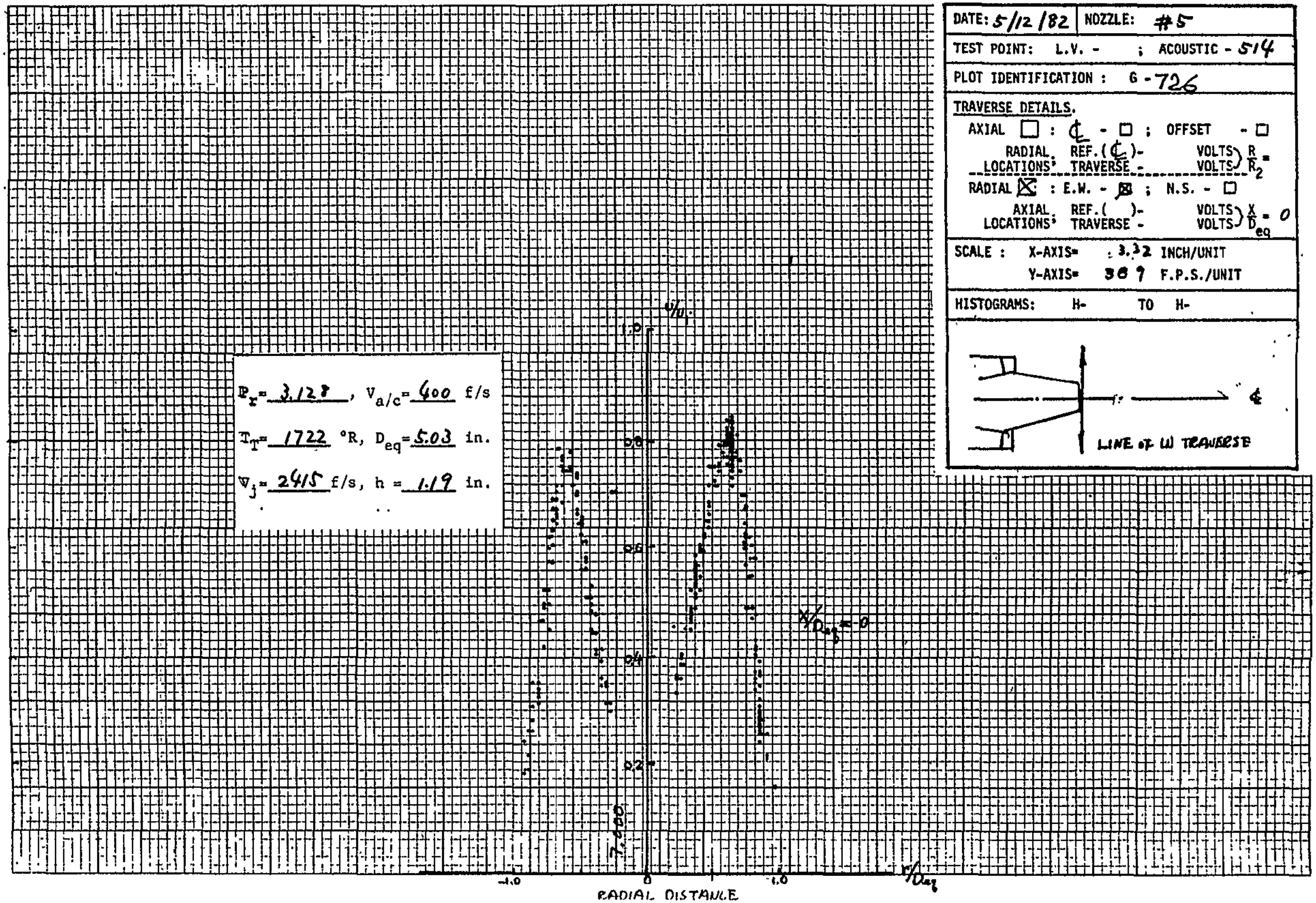
SCALE : X-AXIS = .33 INCH/UNIT

Y-AXIS = 389 F.P.S./UNIT

HISTOGRAMS: H- TO H-



121


DATE: 5/12/82 NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514
PLOT IDENTIFICATION : G - 726
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq = 0
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 369 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE of U TRAVERSE
℄
Pr = 3.128, Va/c = 400 f/s
TT = 1722 °R, Deq = 5.03 in.
Vj = 2415 f/s, h = 1.19 in.
U/Uj
1.0
0.8
0.6
0.4
0.2
0
X/Deq = 0
-1.0
0
1.0
r/Deq
RADIAL DISTANCE

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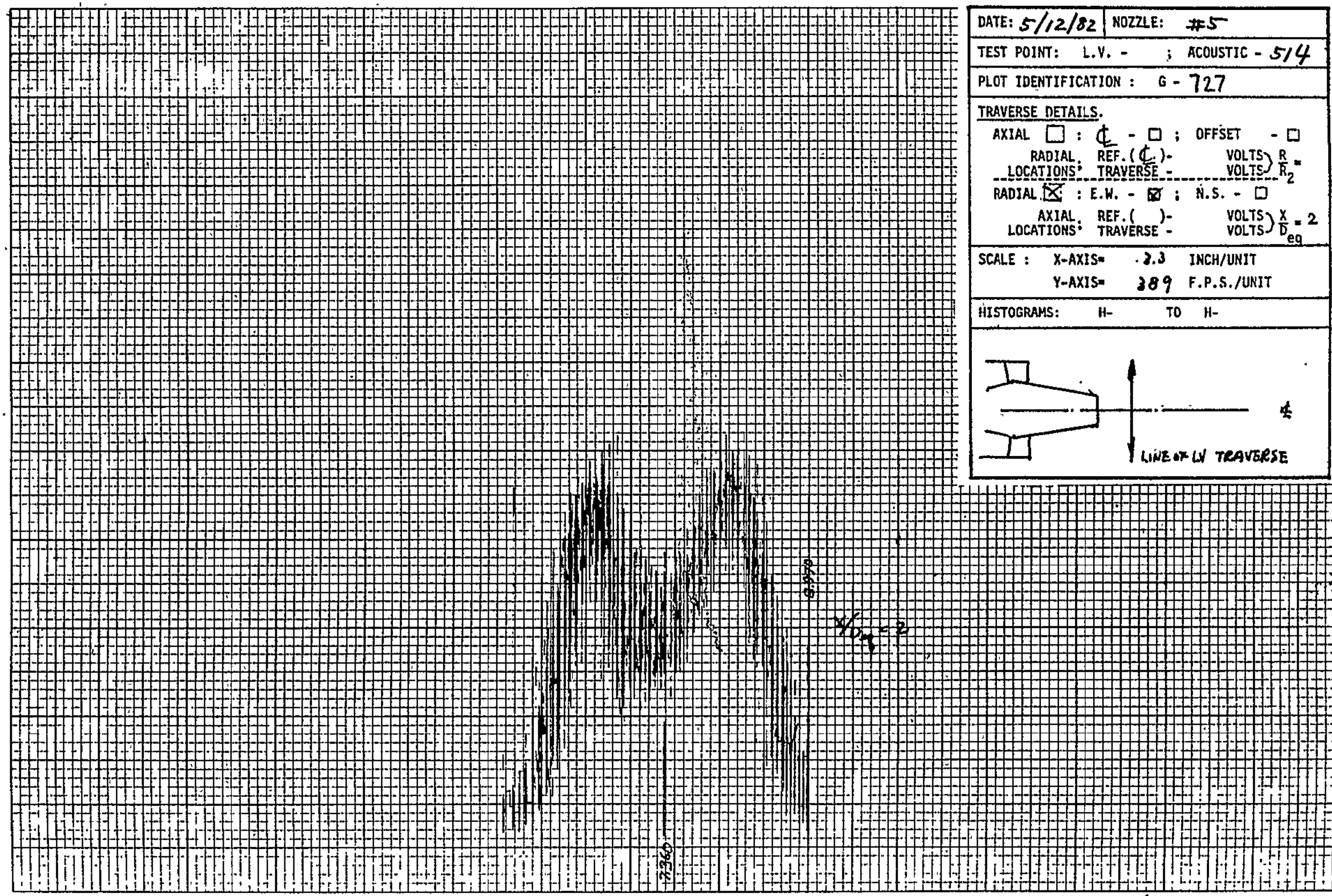
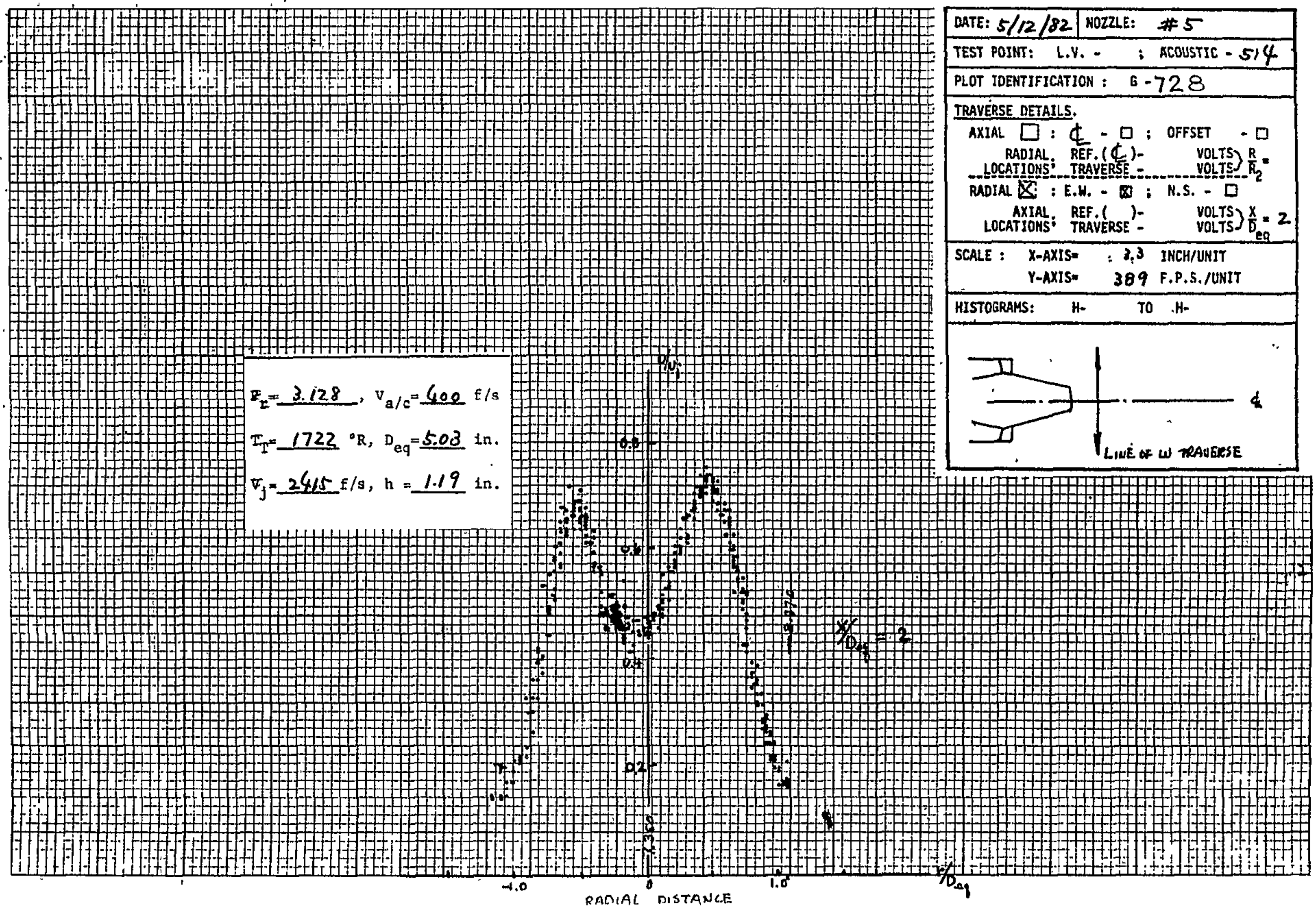
1213




DATE: 5/12/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514
PLOT IDENTIFICATION : G-728
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS X/Deq = 2
SCALE : X-AXIS= 2.3 INCH/UNIT
Y-AXIS= 389 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF ω TRAVERSE
℄
Pr= 3.128 , Va/c= 400 f/s
TT= 1722 °R, Deq= 5.03 in.
Vj= 2415 f/s, h = 1.19 in.
U/Uj
0.6
0.4
0.2
-1.0
0
1.0
X/Deq
RADIAL DISTANCE
X/Deq = 2

DATE: 5/12/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G-729	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

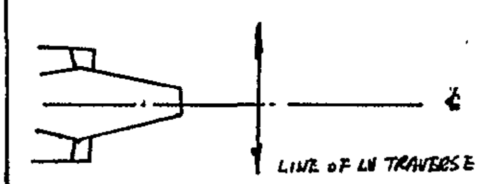
RADIAL ☒ ; E.W. - ☒ ; N.S. - ☐

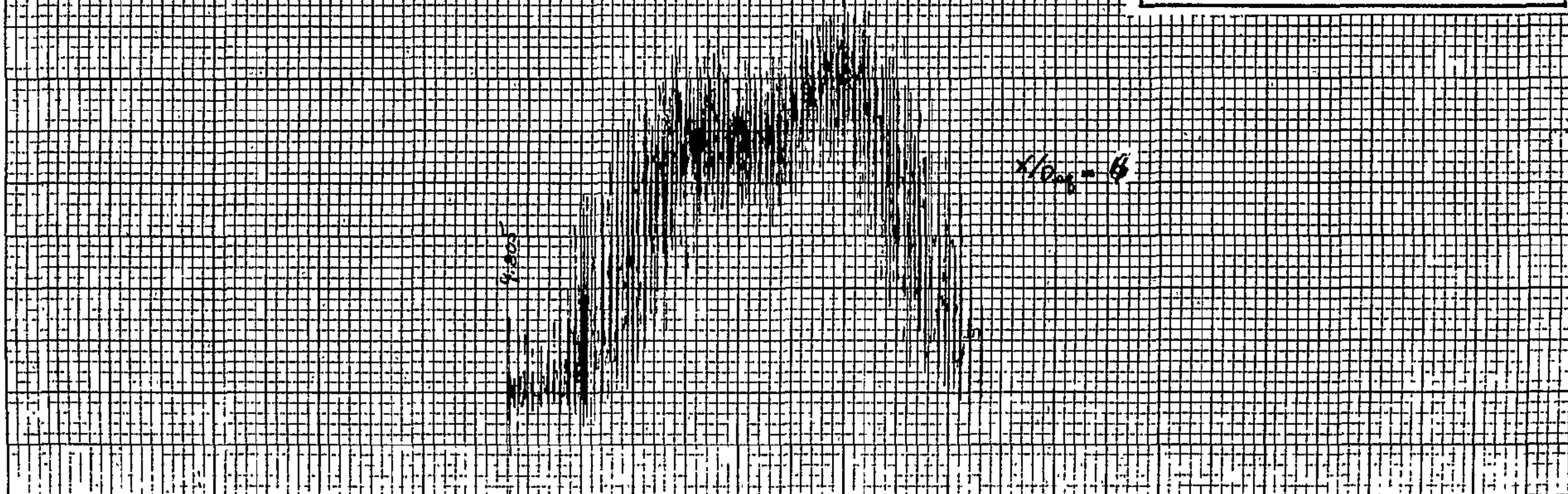
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ = 6

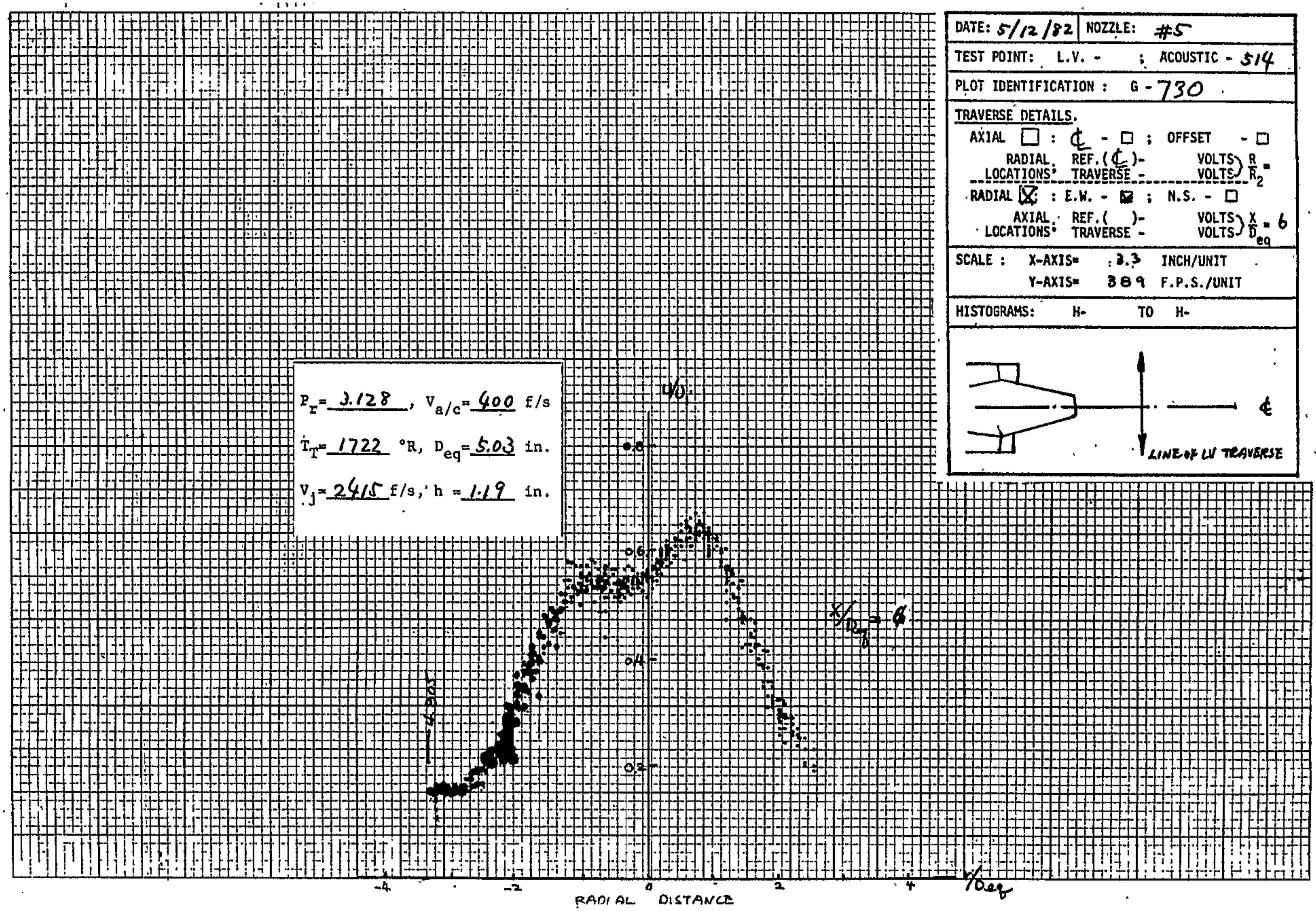
SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 389 F.P.S./UNIT

HISTOGRAMS: H- TO H-






DATE: 5/12/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514
PLOT IDENTIFICATION : G - 730
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS X/Deq = 6
SCALE : X-AXIS= 3.3 INCH/UNIT
Y-AXIS= 389 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
LINE OF LV TRAVERSE
Pr = 3.128, Va/c = 400 f/s
TT = 1722 °R, Deq = 5.03 in.
Vj = 2415 f/s, h = 1.19 in.
U/Uj
0.8
0.6
0.4
0.2
X/Deq = 6
-4
-2
0
2
4
Y/Deq
RADIAL DISTANCE

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1217

DATE: 5/12/82 NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 731

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS } R/R_2 =

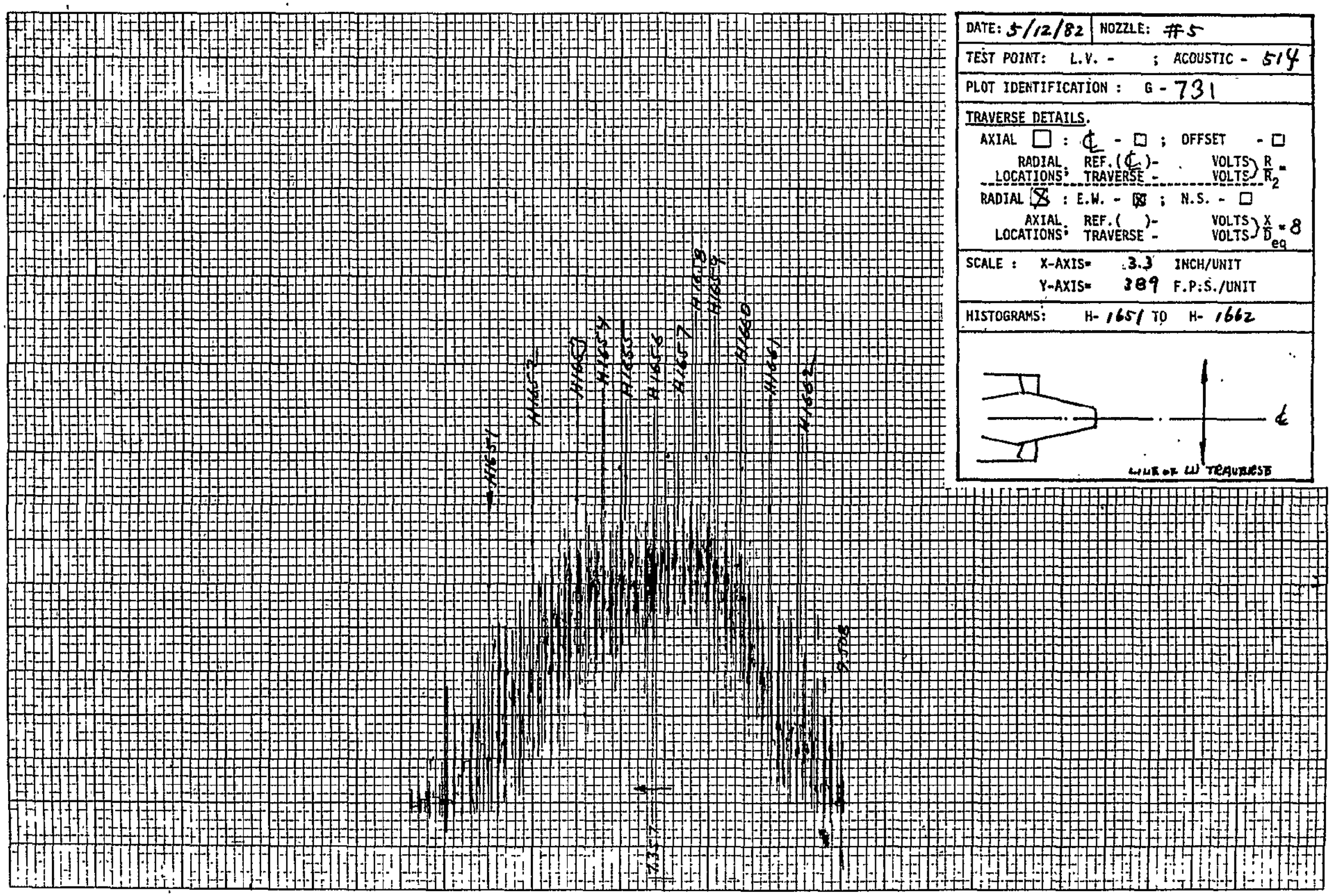
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS } X/D_{eq} = 8

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 389 F.P.S./UNIT

HISTOGRAMS: H-1651 TO H-1662



DATE: 5/12/82 | NOZZLE: #5

TEST POINT: L.V. - ; ACOUSTIC - 514

PLOT IDENTIFICATION : G - 732

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 8

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 389 F.P.S./UNIT

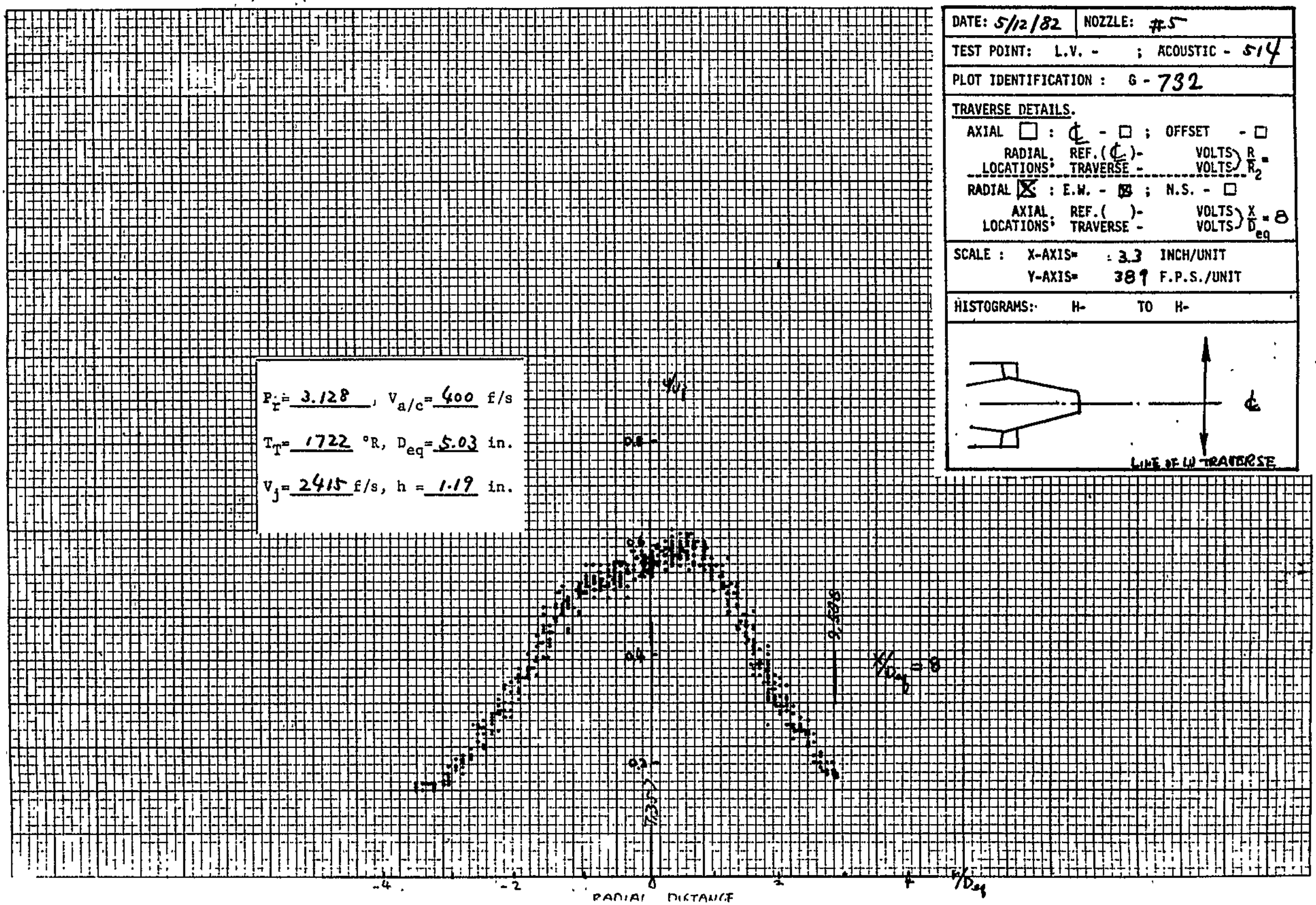
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

P_r = 3.128 , $V_{a/c}$ = 400 f/s

T_T = 1722 °R, D_{eq} = 5.03 in.

V_j = 2415 f/s, h = 1.19 in.



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1219

DATE: 5/12/82	NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514	
PLOT IDENTIFICATION : G - 733	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

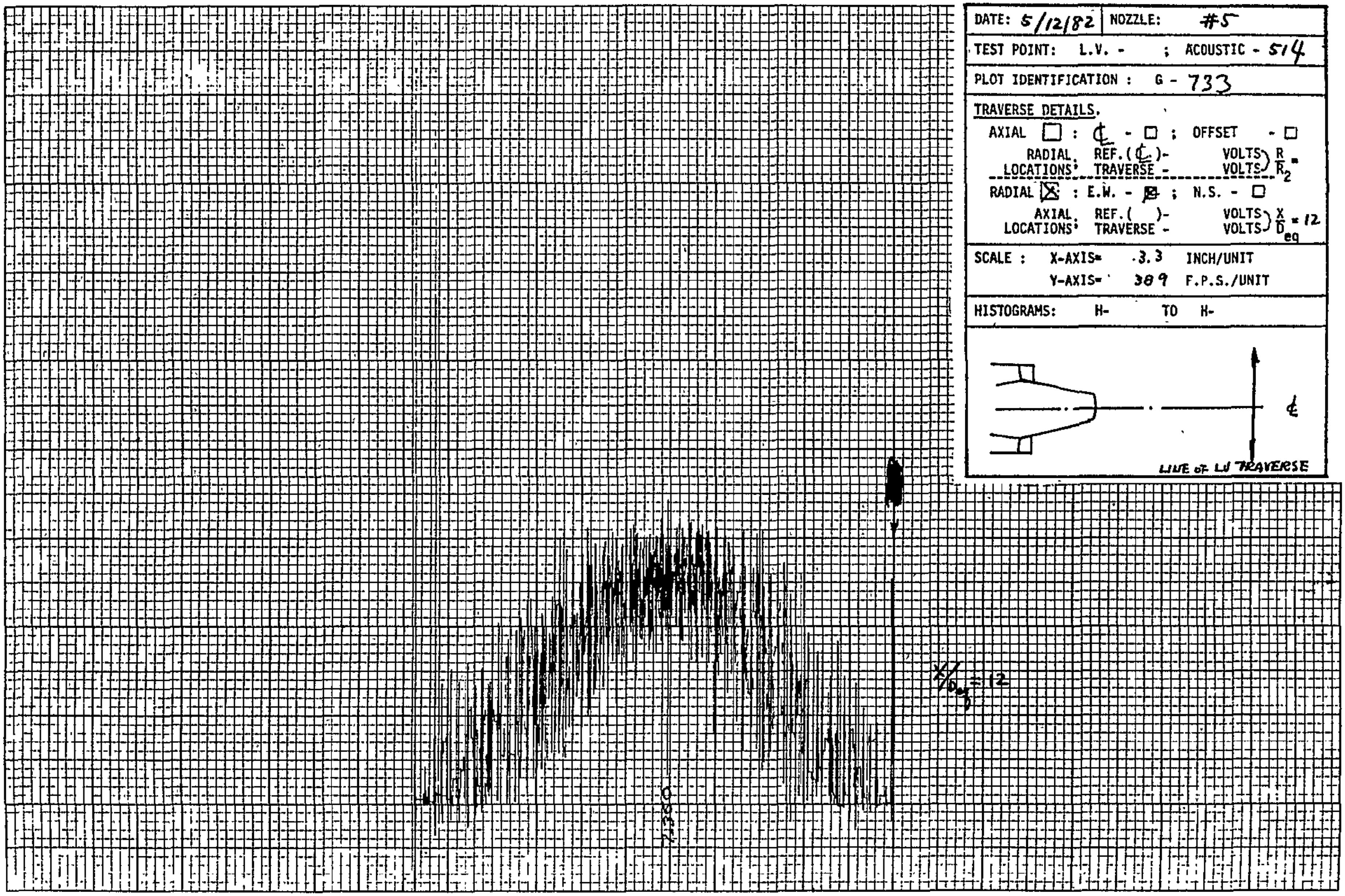
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

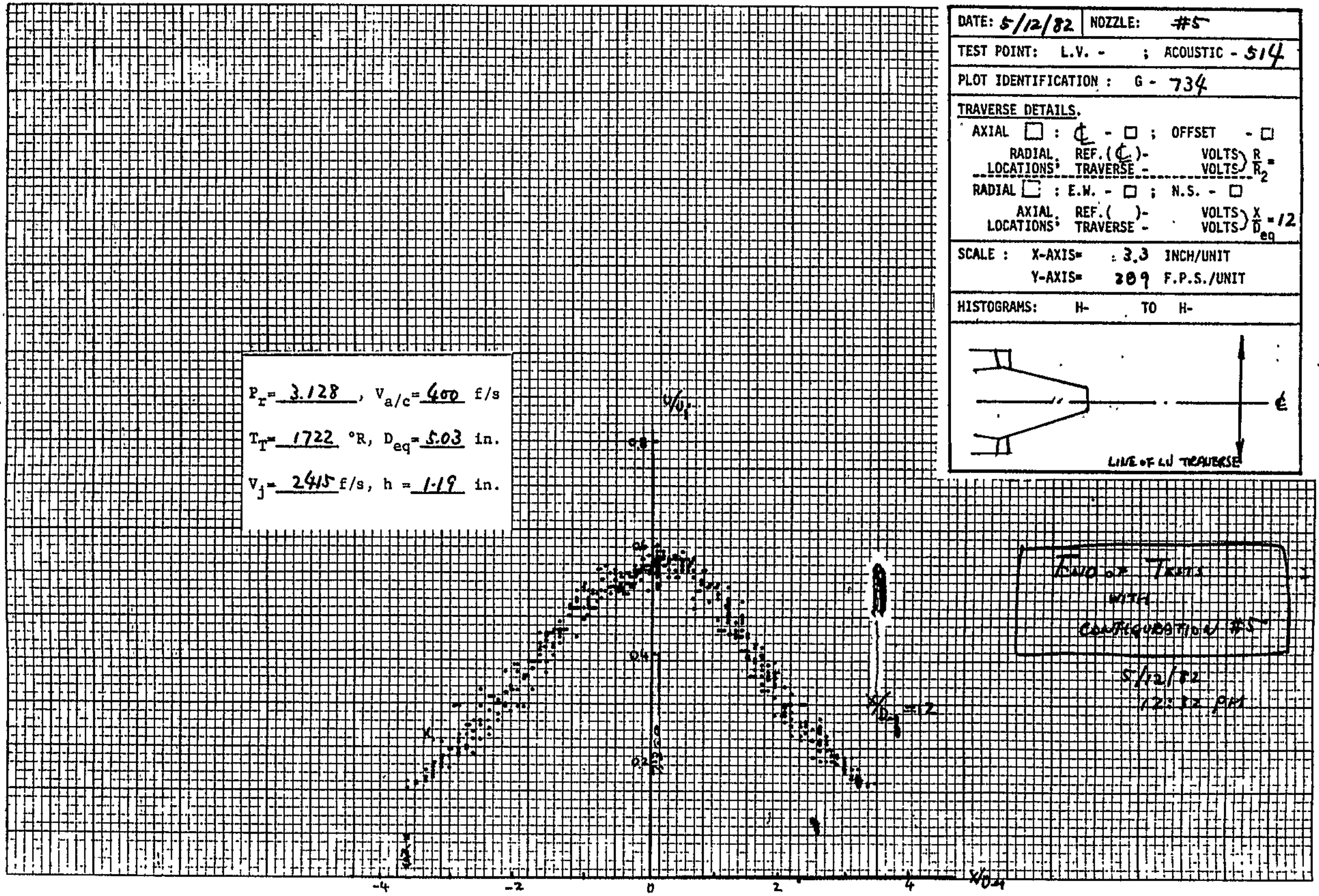
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 12

SCALE : X-AXIS= 3.3 INCH/UNIT

Y-AXIS= 389 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 5/12/82
NOZZLE: #5
TEST POINT: L.V. - ; ACOUSTIC - 514
PLOT IDENTIFICATION : G - 734
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS; REF. (℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS; REF. ( )- TRAVERSE - VOLTS VOLTS X/Deq = 12
SCALE : X-AXIS= 3.3 INCH/UNIT
Y-AXIS= 389 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
LINE OF LV TRAVERSE
Pr= 3.128 , Va/c= 400 f/s
TT= 1722 °R, Deq= 5.03 in.
Vj= 2415 f/s, h = 1.19 in.
V/Vj
0.6
0.4
0.2
-4
-2
0
2
4
X/Deq
X/D = 12
END OF TESTS WITH CONFIGURATION #5
5/12/82
12:32 PM

Model 6

Test Point 613

NO. XY 1101

1223

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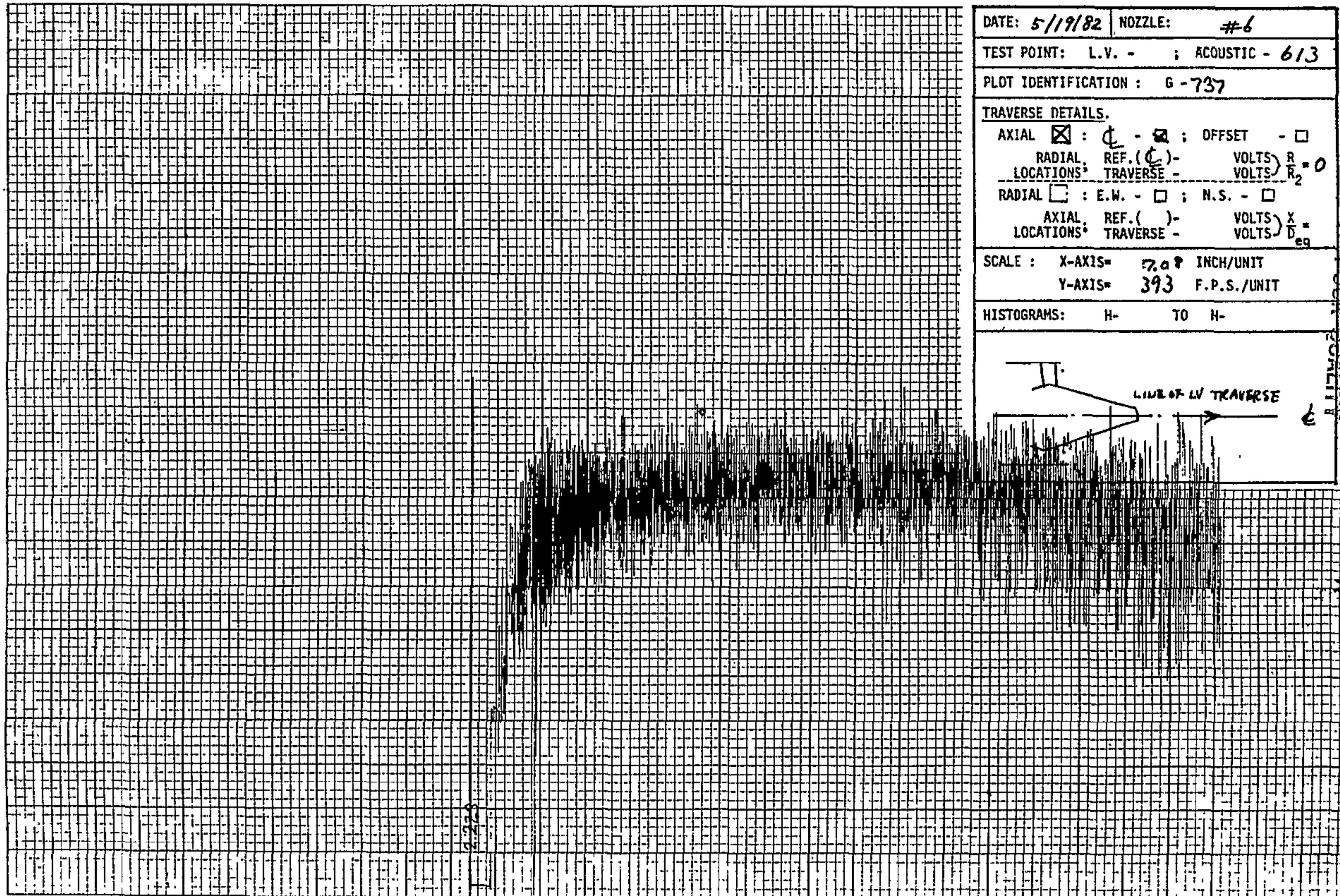


DATE: 5/19/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 737

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2} = 0$

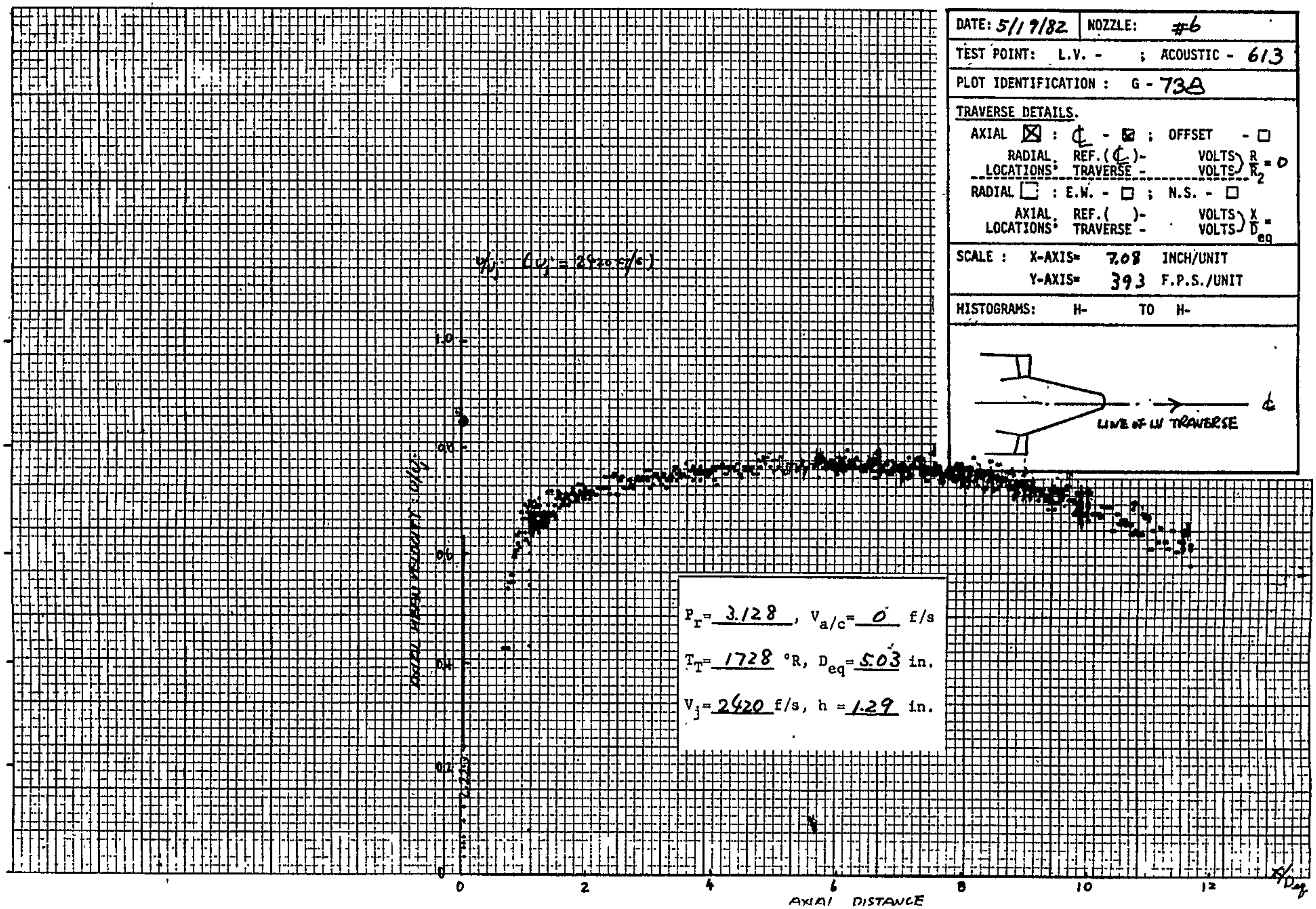
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}} =$

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1224

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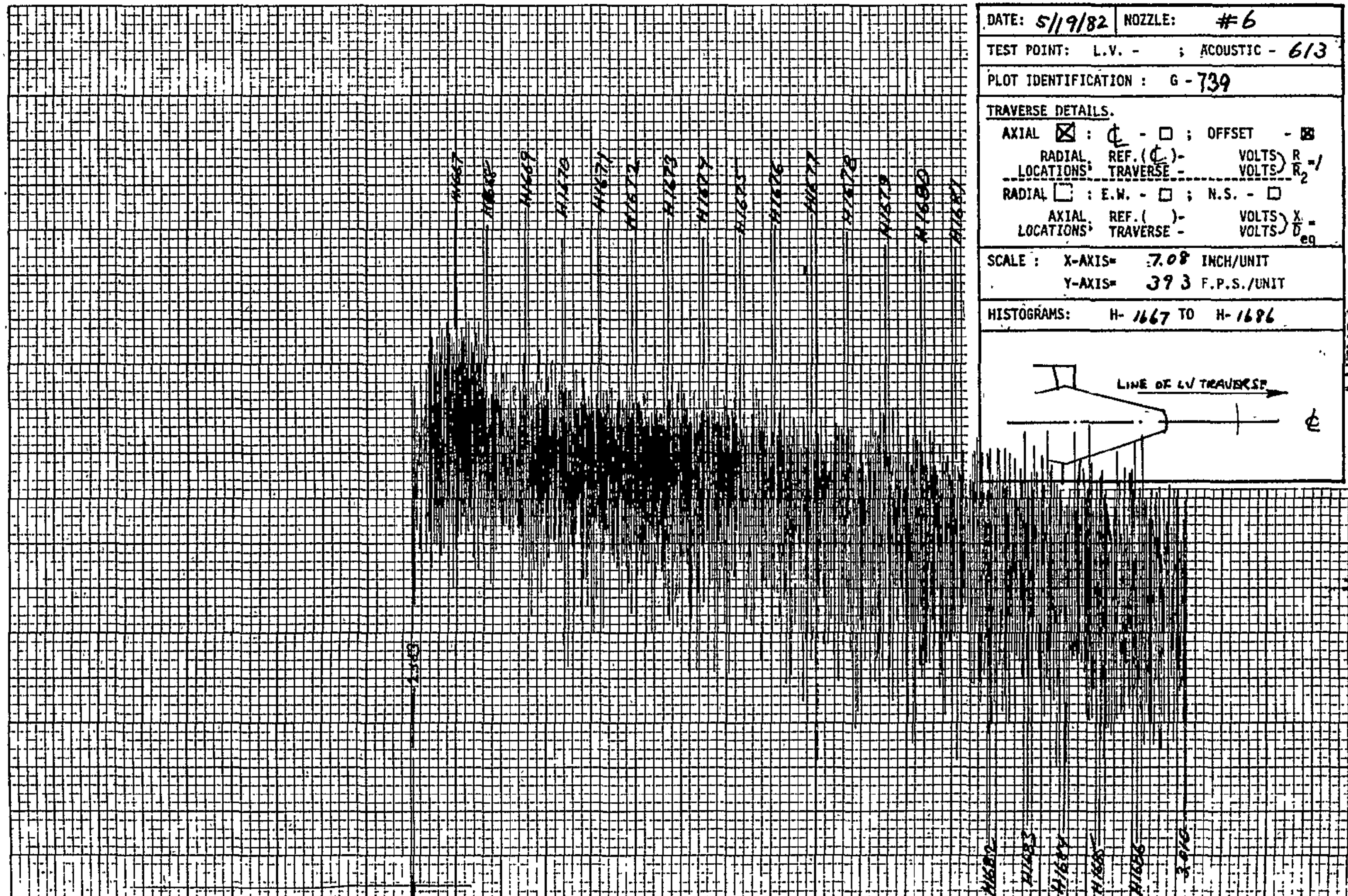
NO. XY 1101

1225



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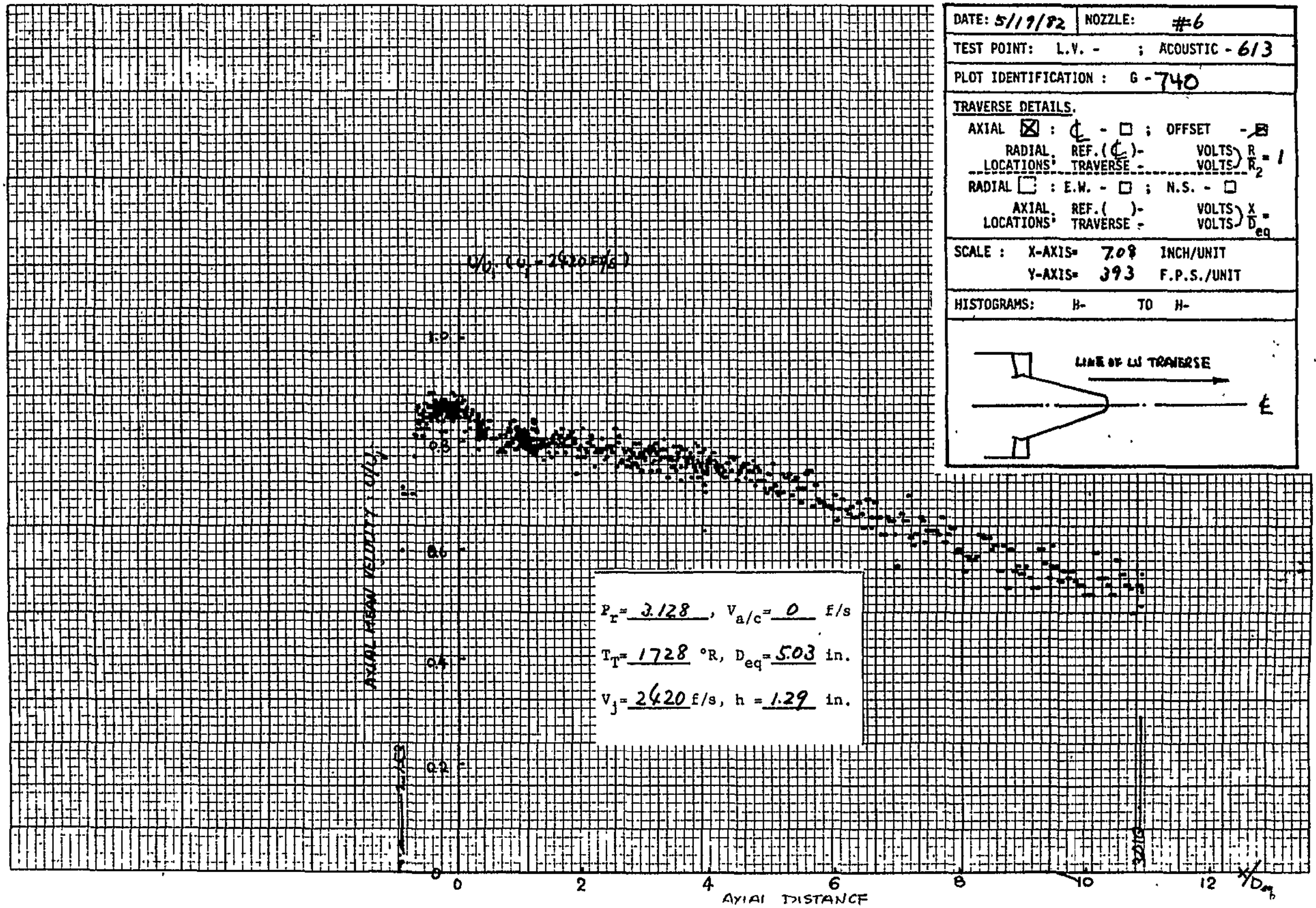

DATE: 5/19/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613
PLOT IDENTIFICATION : G - 740
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 = 1
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
U/Uj (Uj = 2420 F/S)
AXIAL MEAN VELOCITY U/Uj
1.0
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
X/Deq
AXIAL DISTANCE
Pr = 3.128, Va/c = 0 f/s
TT = 1728 °R, Deq = 5.03 in.
Vj = 2420 f/s, h = 1.29 in.

No. XY 1101

1227

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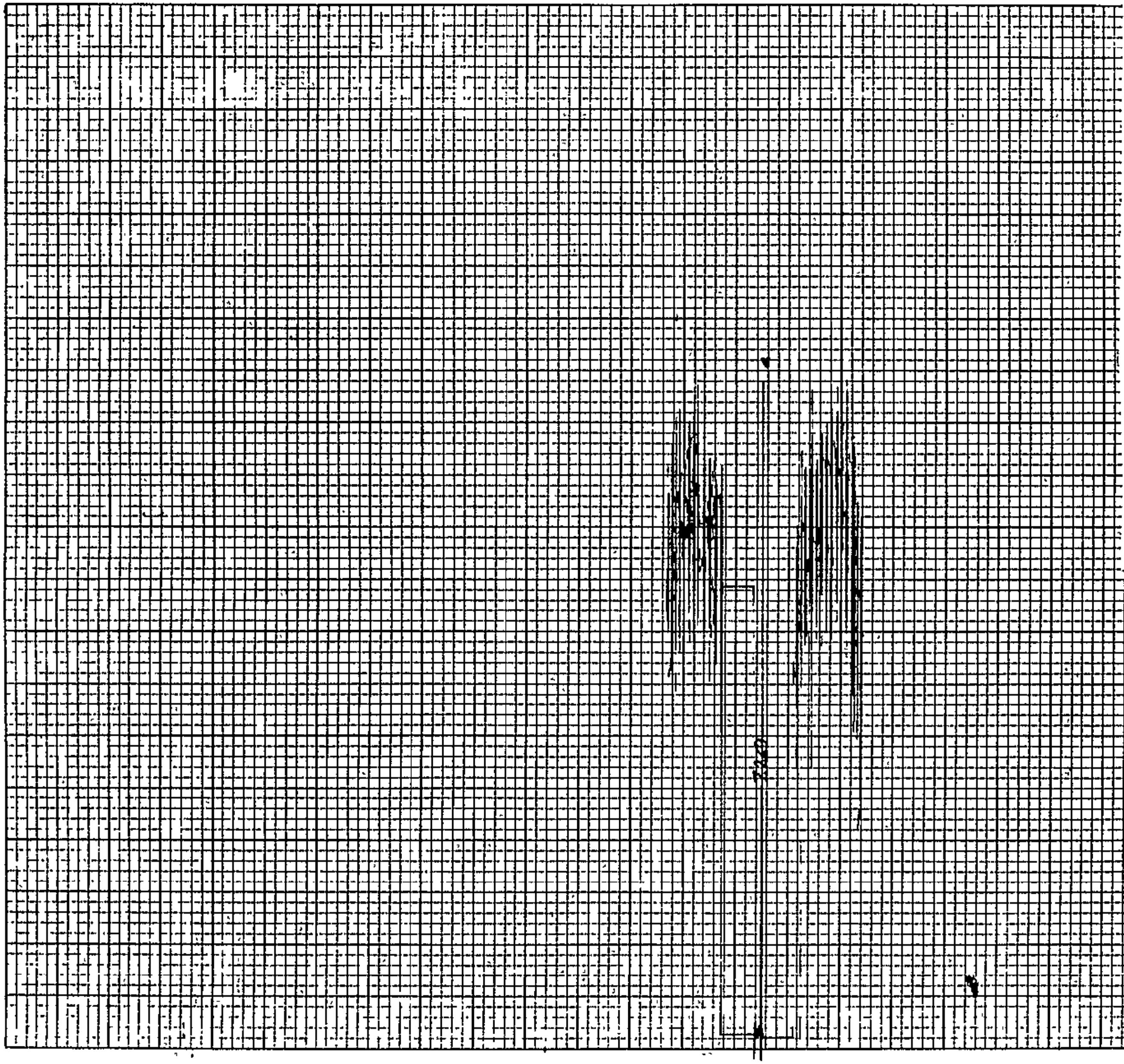


DATE: 5/19/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G -741

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

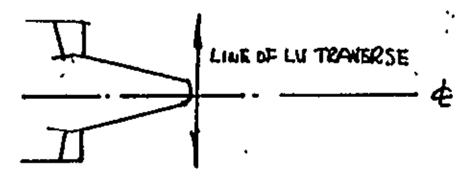
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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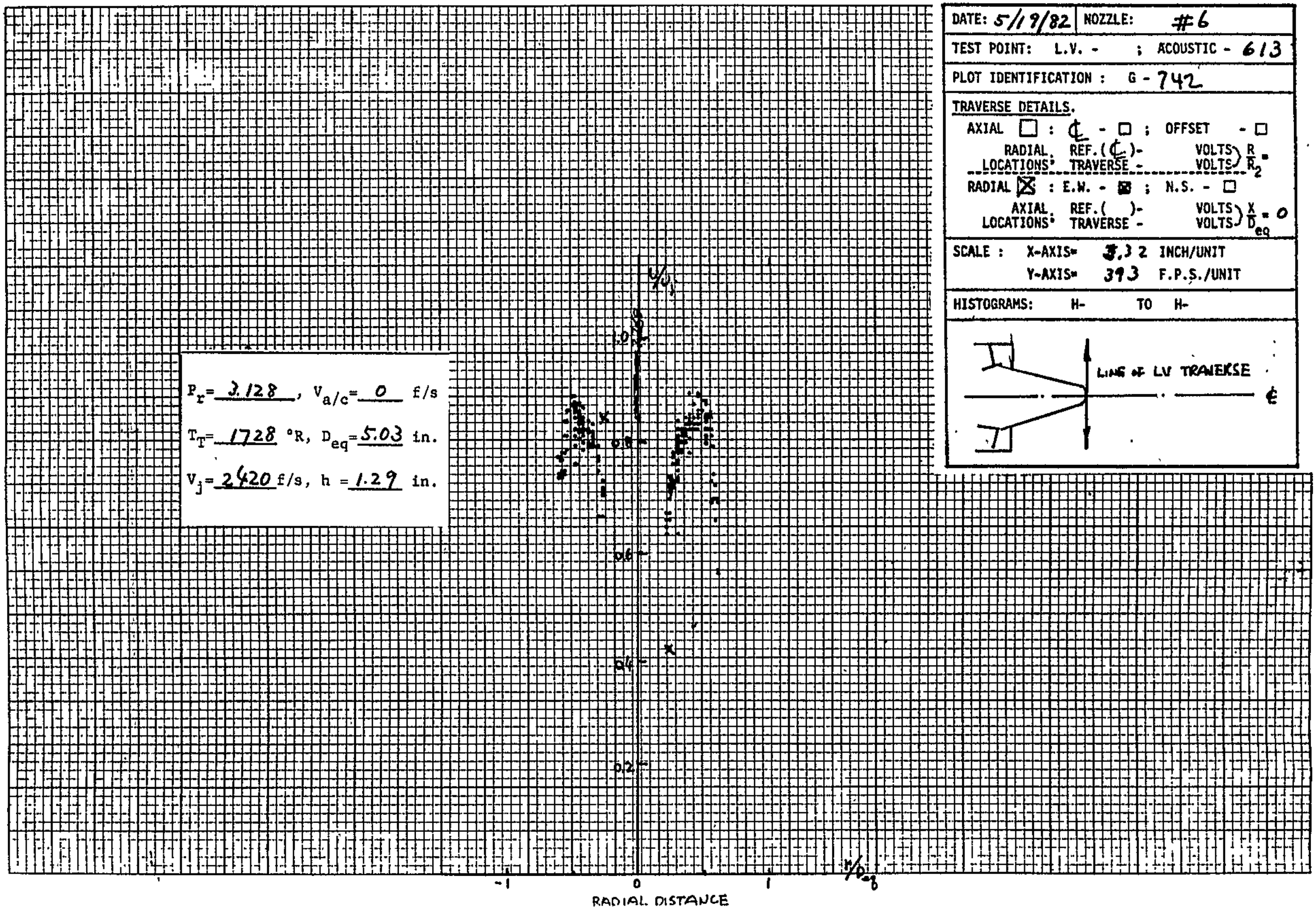

1228

NO. XY 1101

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NO. XY 1101

1229

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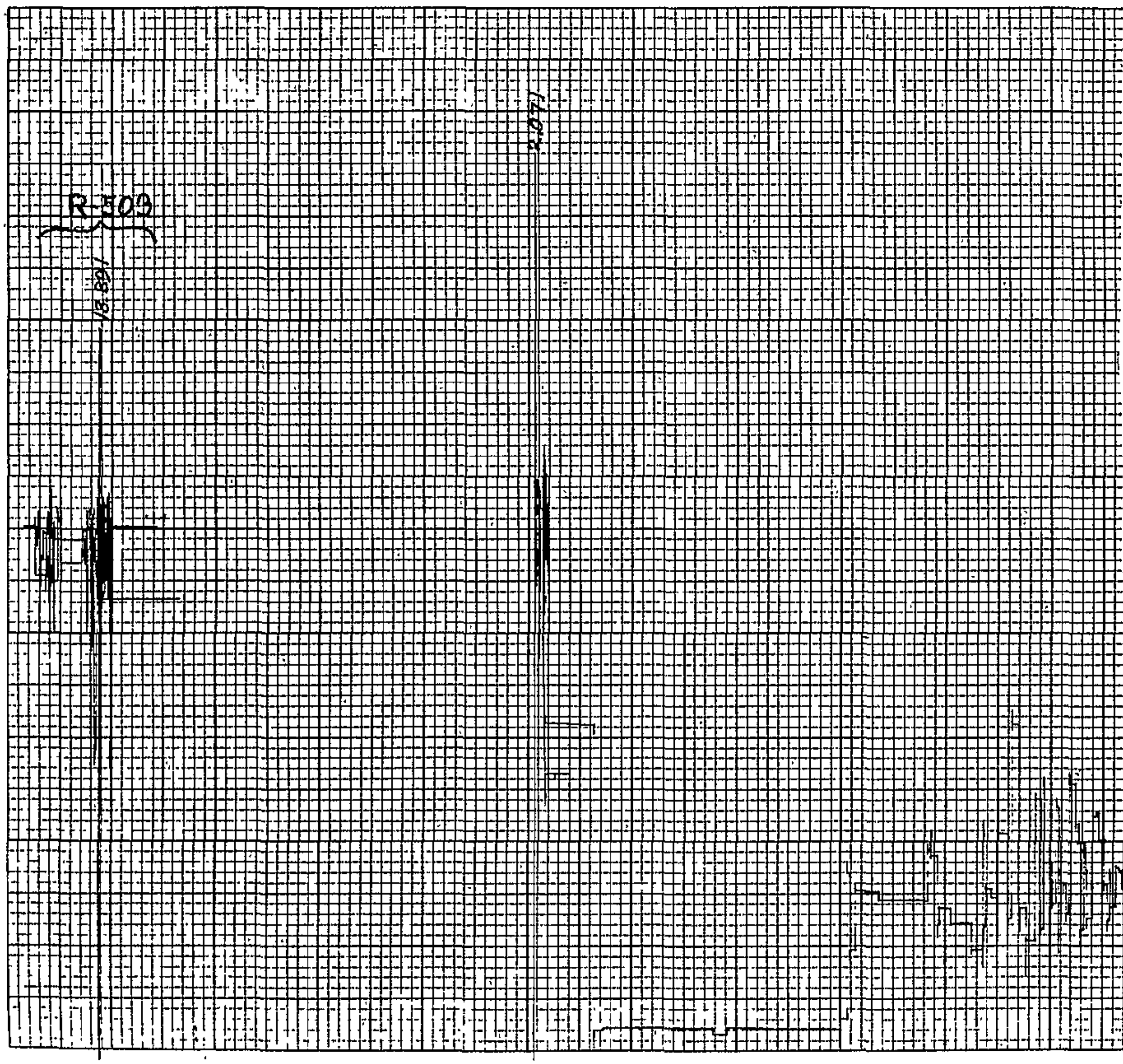


DATE: 5/19/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 743	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 2

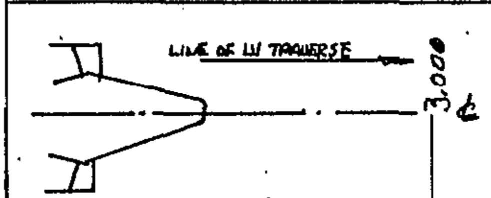
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= .708 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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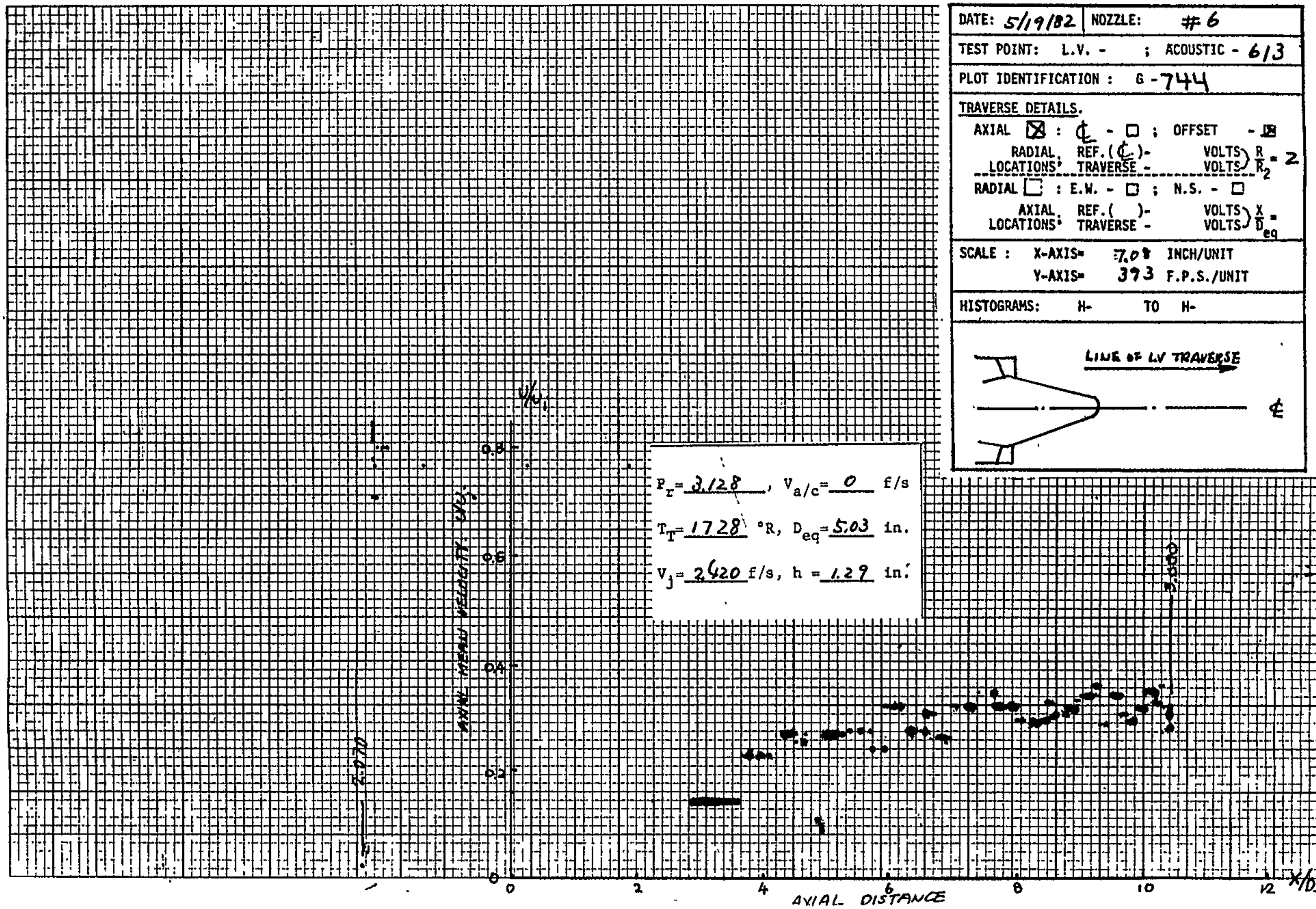

1230

NO. XY 1101

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DATE: 5/19/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 745	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

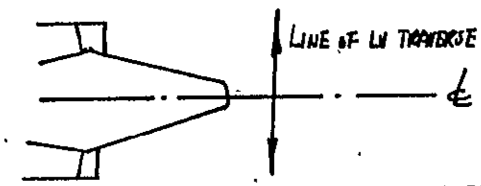
RADIAL ☒ : E.W. - ■ ; N.S. - ☐

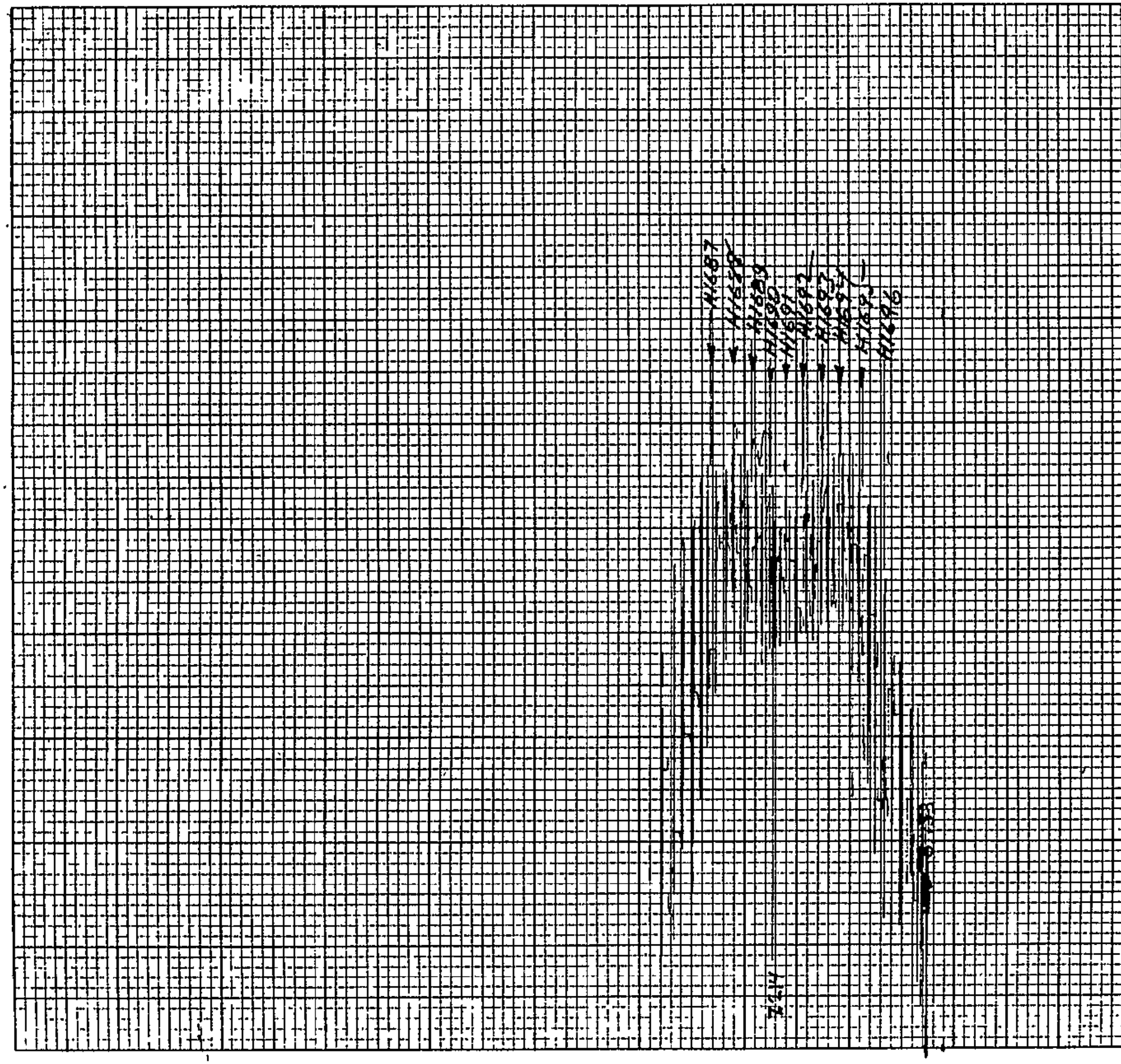
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 2

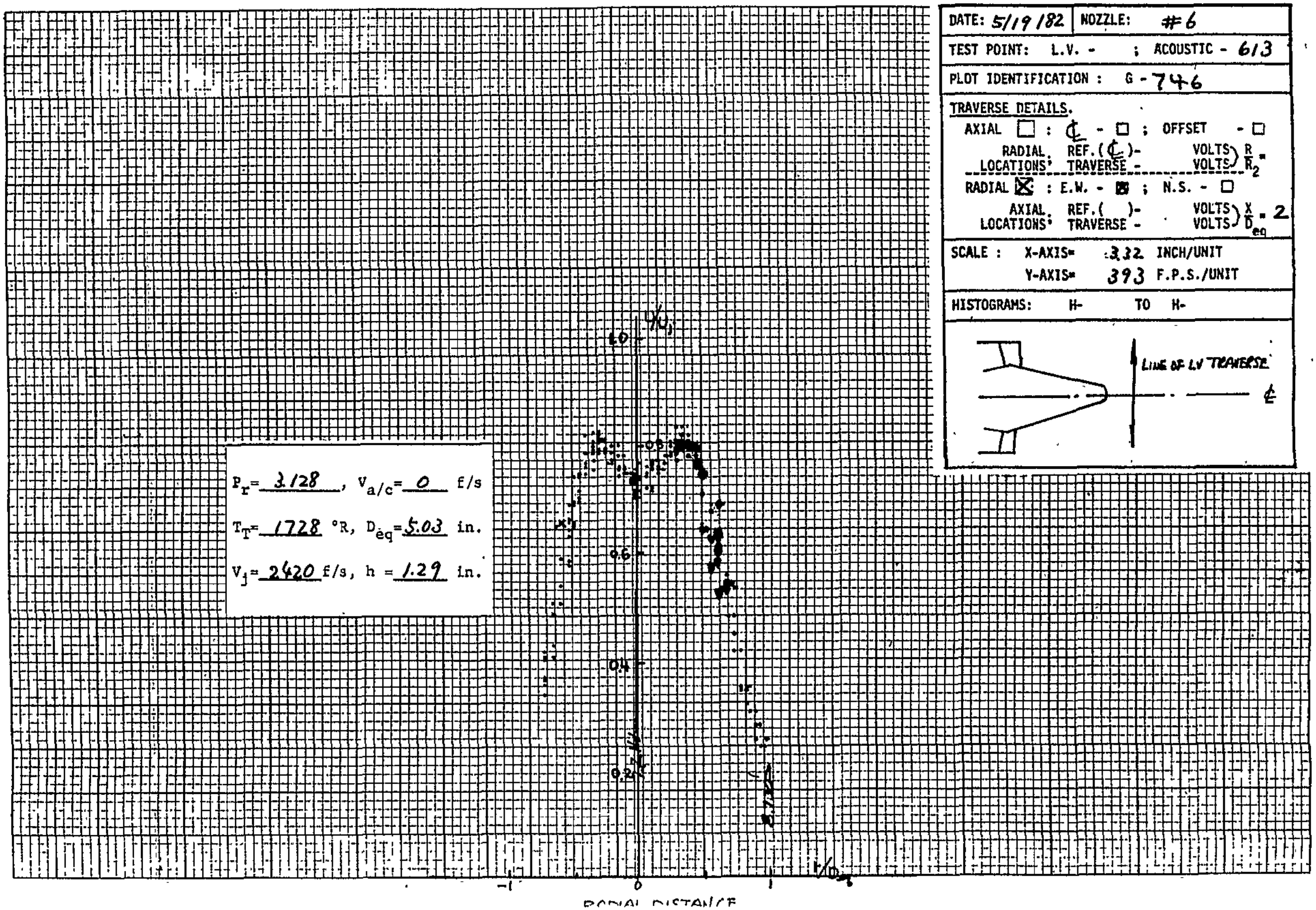
SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

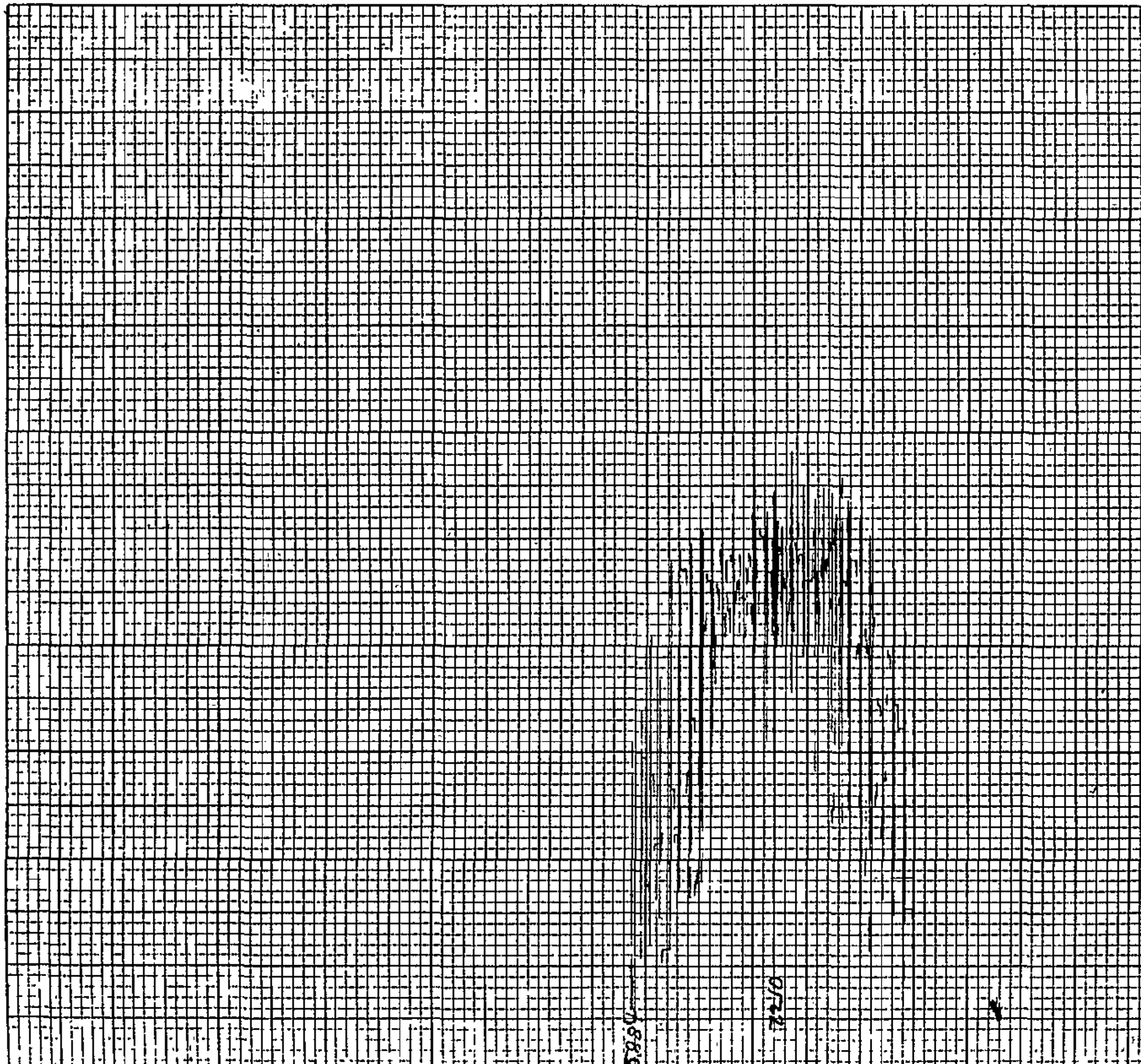
HISTOGRAMS: H-1687 TO H-1696






DATE: 5/19/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613
PLOT IDENTIFICATION : G - 746
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS) R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS) X/Deq = 2
SCALE : X-AXIS= .332 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.128, Va/c= 0 f/s
TT= 1728 °R, Deq= 5.03 in.
Vj= 2420 f/s, h = 1.29 in.
U/Uj
1.0
0.6
0.4
0.2
-1
0
1
r/Deq
RADIAL DISTANCE

1233



DATE: 5/19/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 747

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

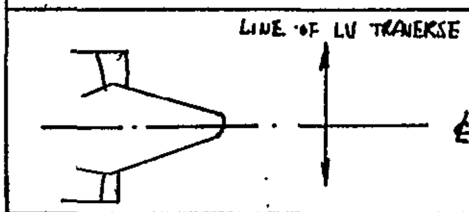
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 5/19/82 NOZZLE: # 6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G-748

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.32 INCH/UNIT

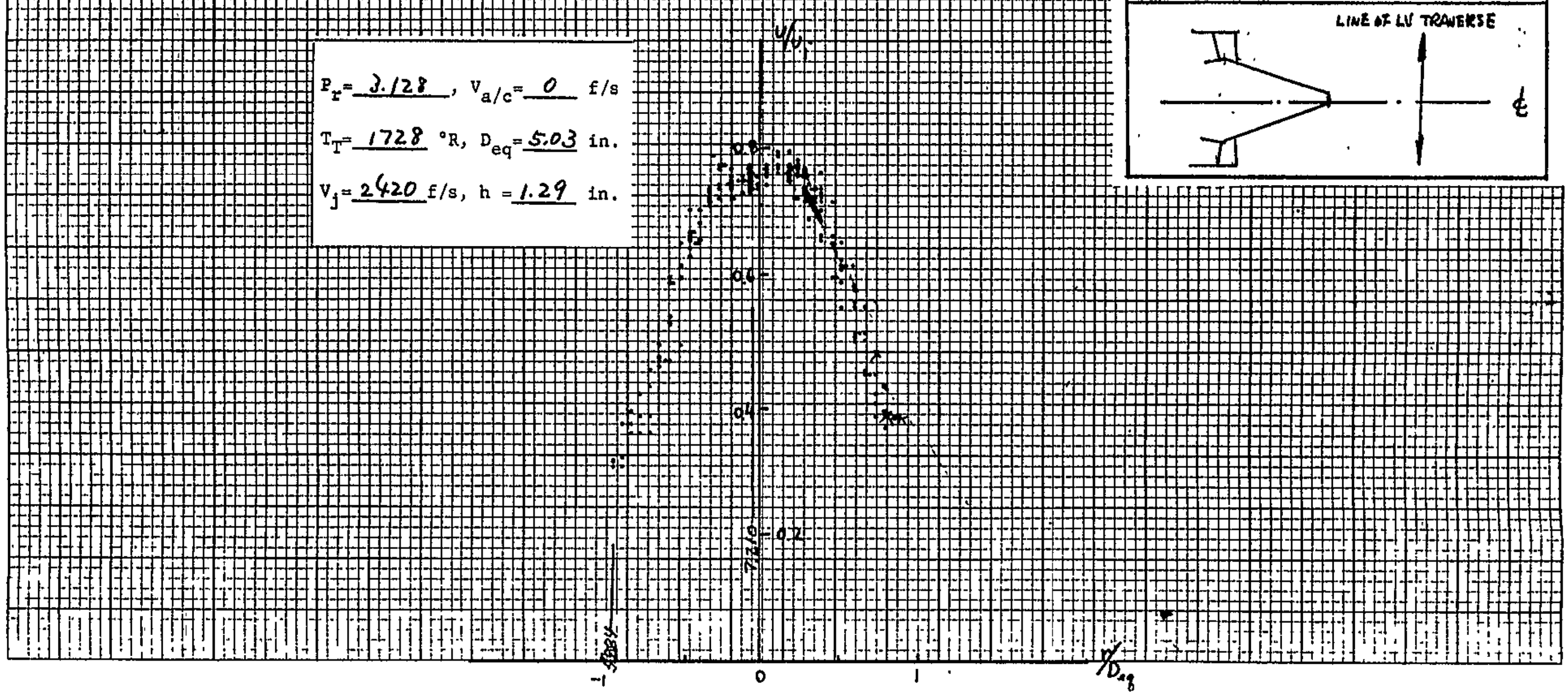
Y-AXIS= 393 F.P.S./UNIT

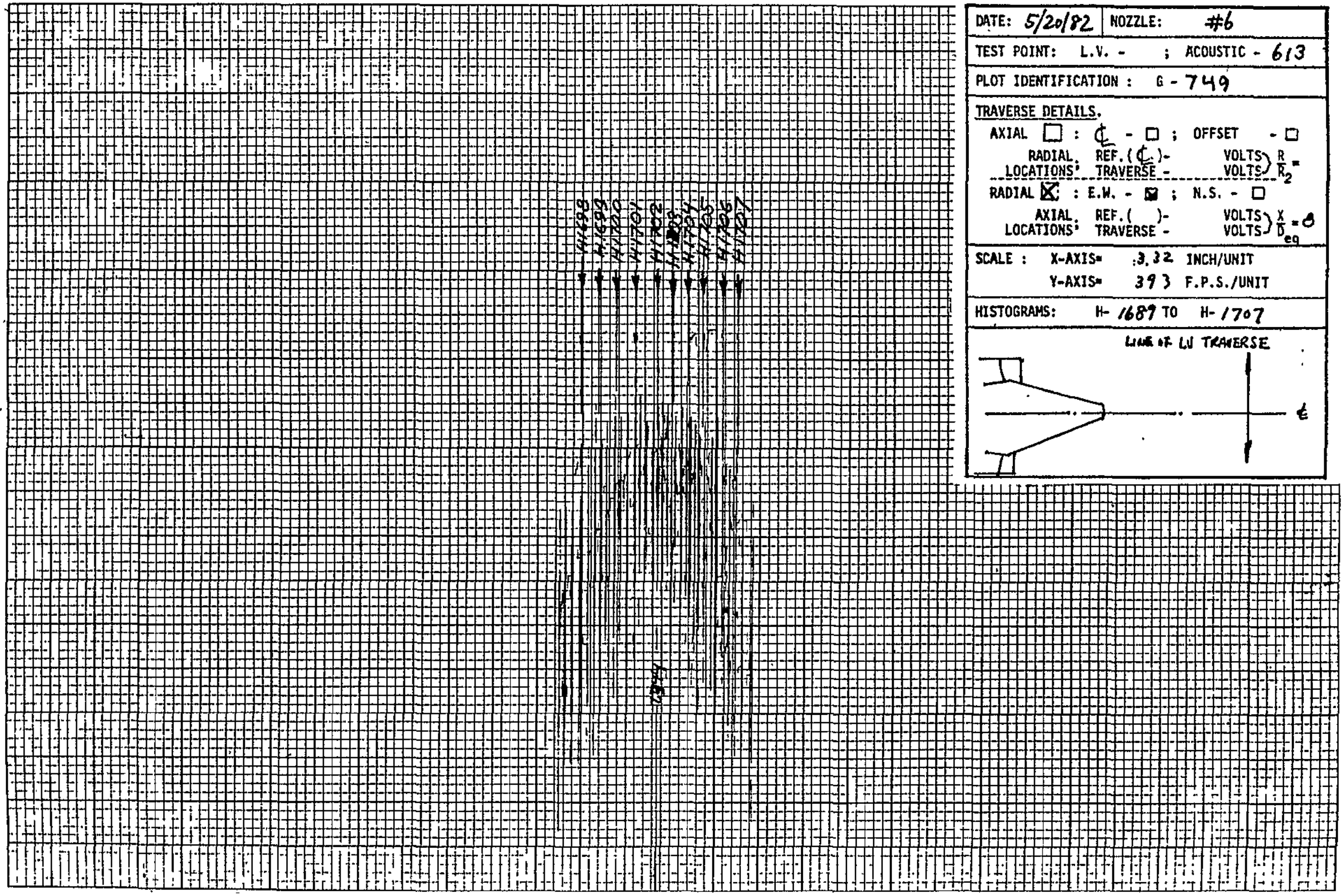
HISTOGRAMS: H- TO H-

P_r = 3.128, $V_{a/c}$ = 0 f/s

T_T = 1728 °R, D_{eq} = 5.03 in.

V_j = 2420 f/s, h = 1.29 in.





DATE: 5/20/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 749

TRAVERSE DETAILS.

AXIAL ☐ : ¢ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (¢)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- 1689 TO H- 1707

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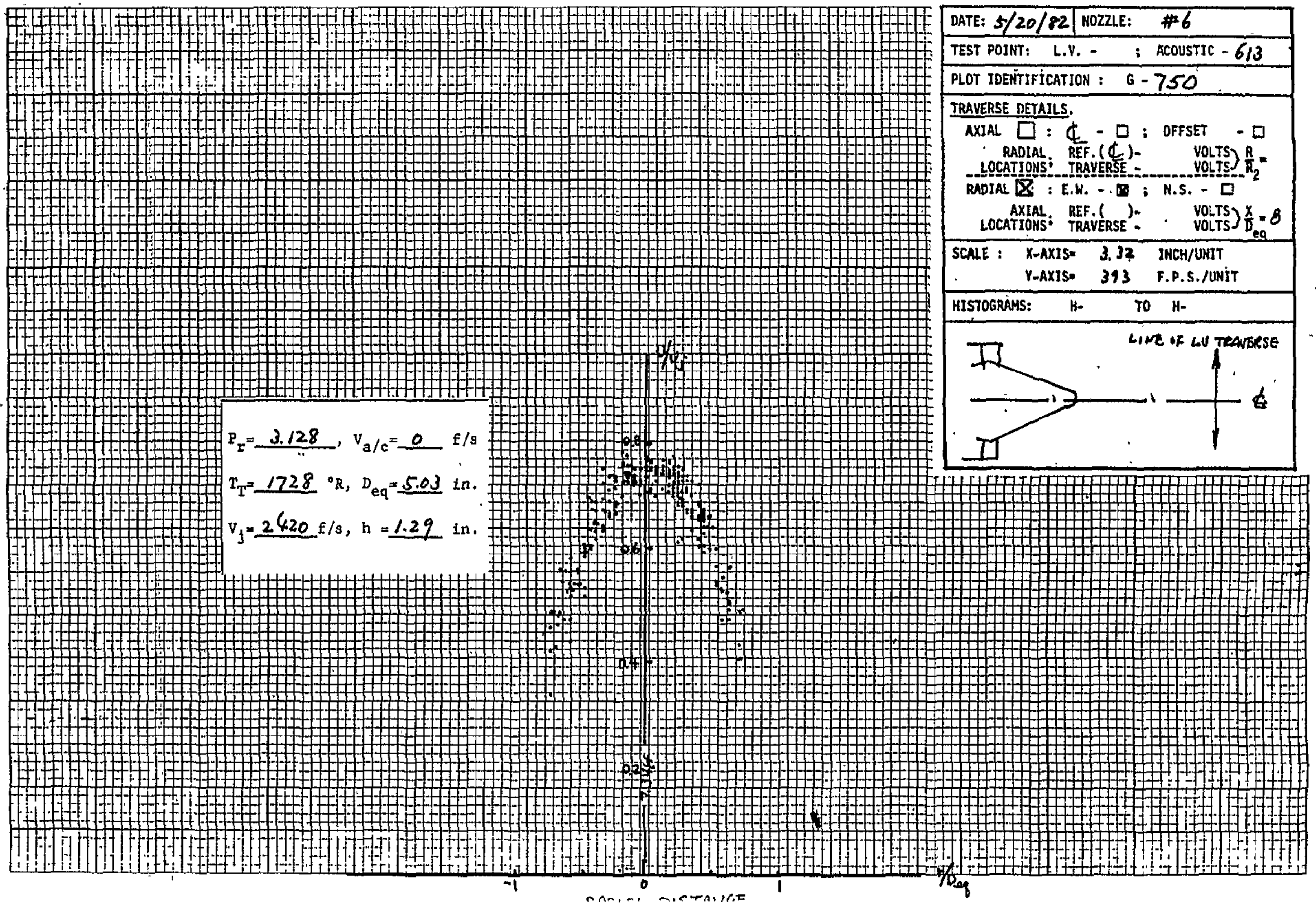
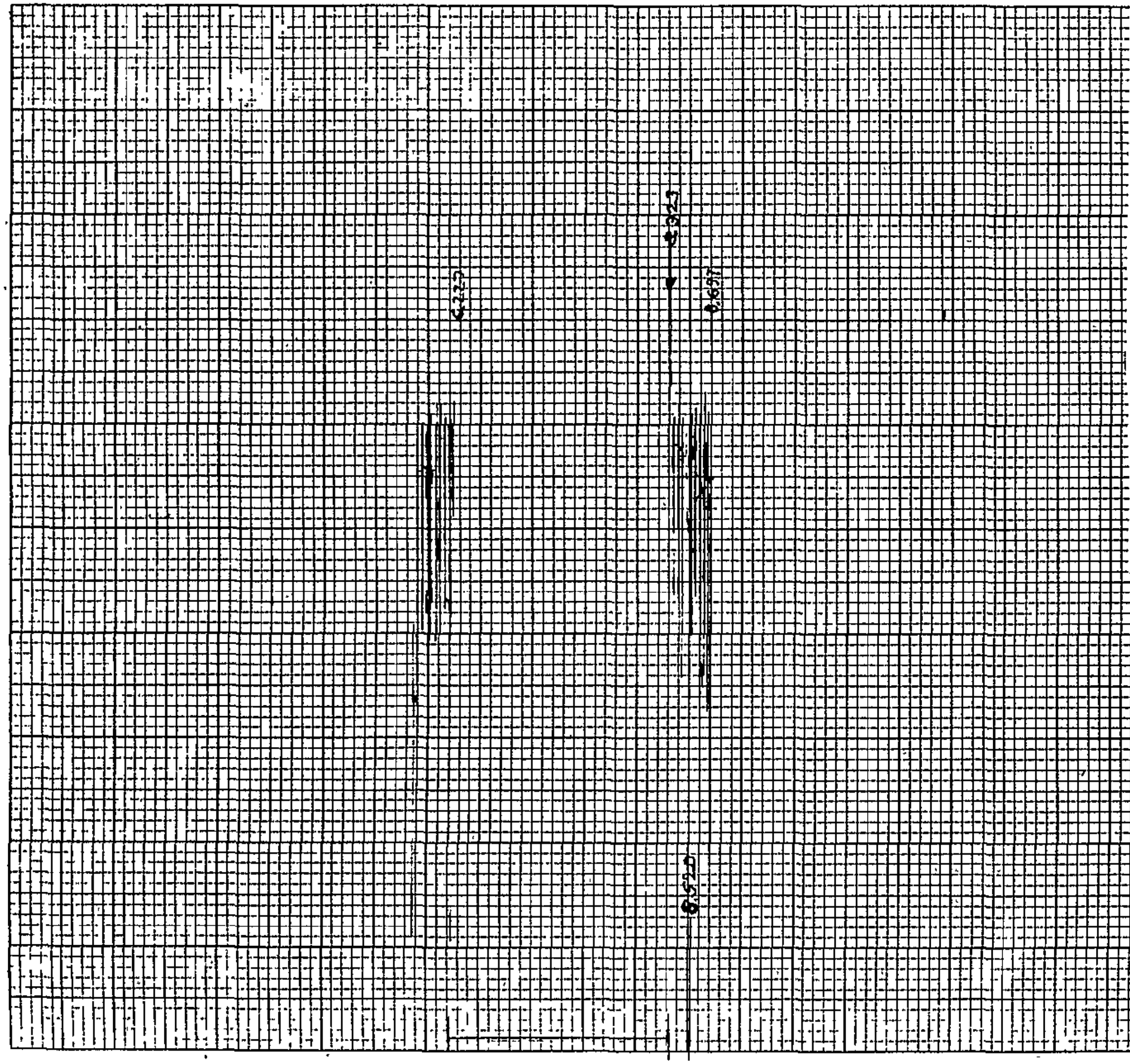
1233


DATE: 5/20/82 NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613
PLOT IDENTIFICATION : G - 750
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS VOLTS X/Deq = 8
SCALE : X-AXIS = 3.32 INCH/UNIT
Y-AXIS = 393 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr = 3.128 , Va/c = 0 f/s
TT = 1728 °R, Deq = 5.03 in.
Vj = 2420 f/s, h = 1.29 in.
V/Vj
0.8
0.6
0.4
0.2
-1
0
1
r/Deq
RADIAL DISTANCE

1236



DATE: 5/20/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 751

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

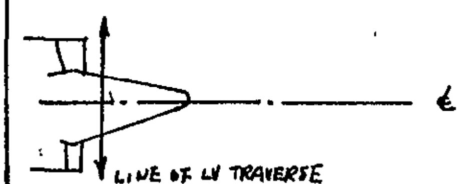
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 5/20/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 752

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS; TRAVERSE - VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- VOLTS; TRAVERSE - VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

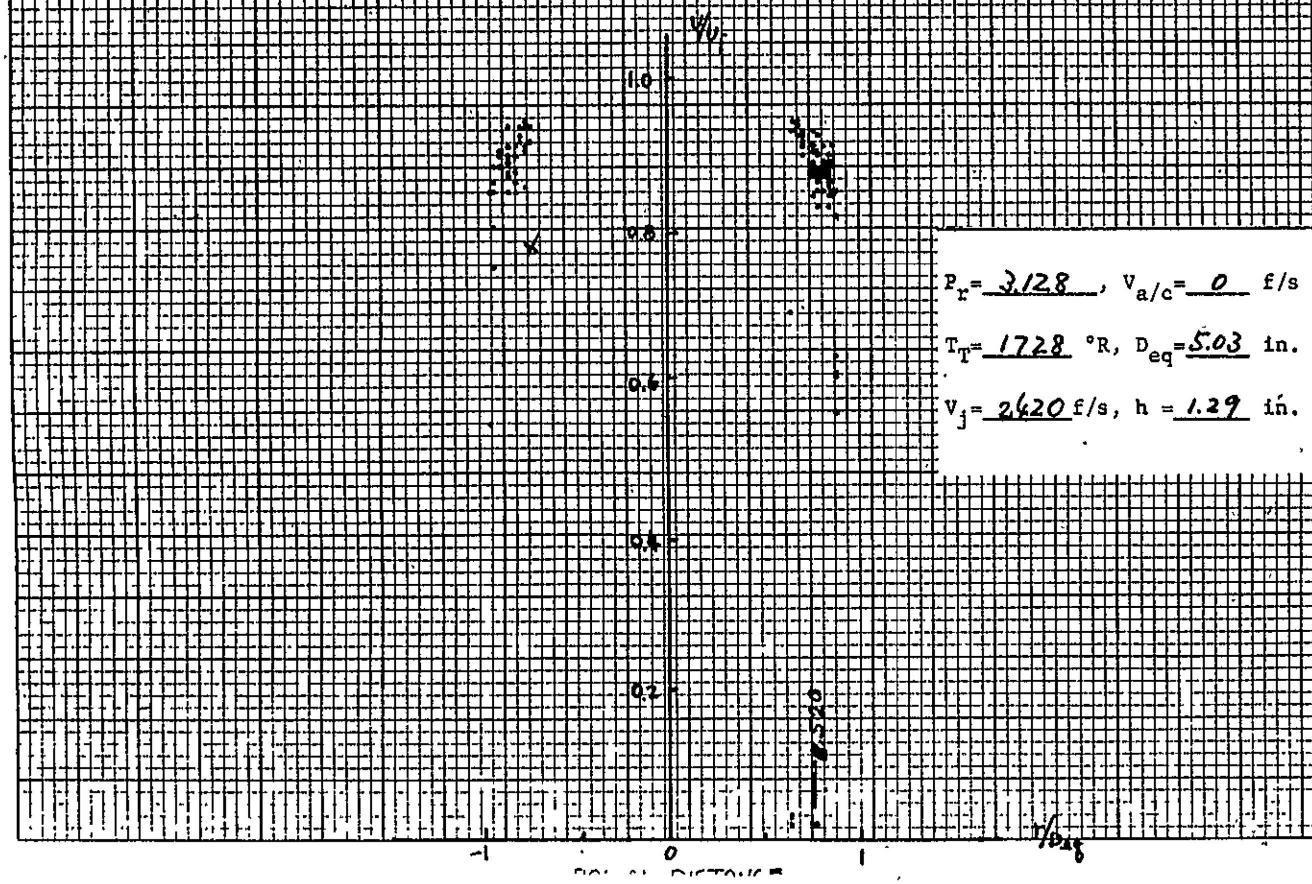
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

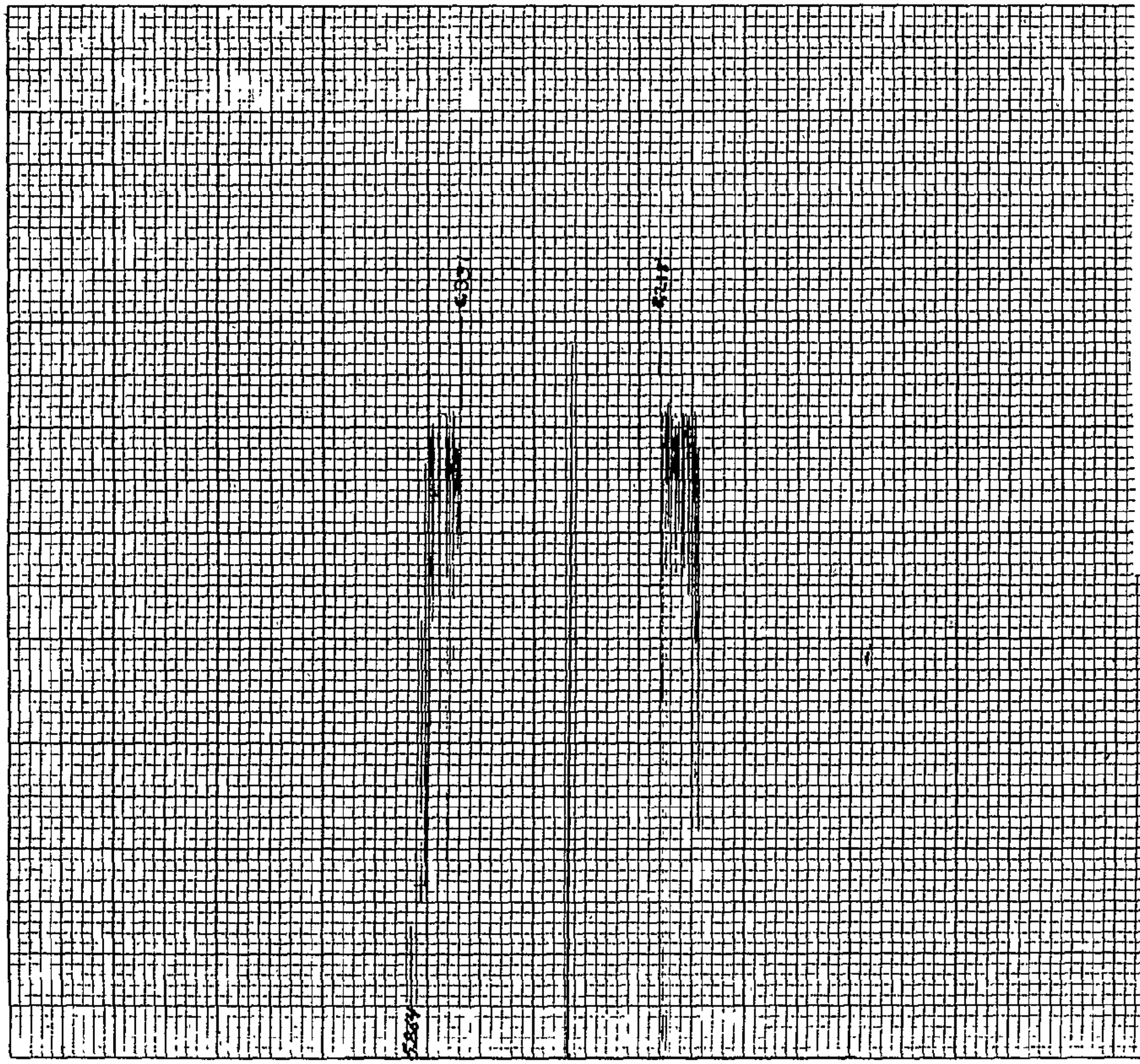
P_r= 3.128 , $V_{a/c}$= 0 f/s

T_T= 1728 °R, D_{eq}=5.03 in.

V_j= 2420 f/s, h = 1.29 in.



1238



DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 753	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

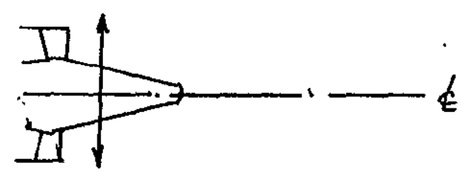
RADIAL ☒ : E.W. - ■ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 754	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

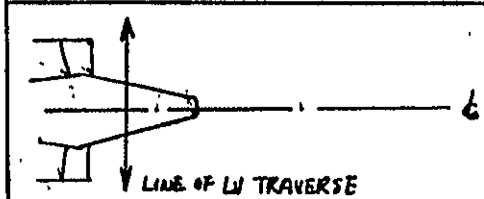
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

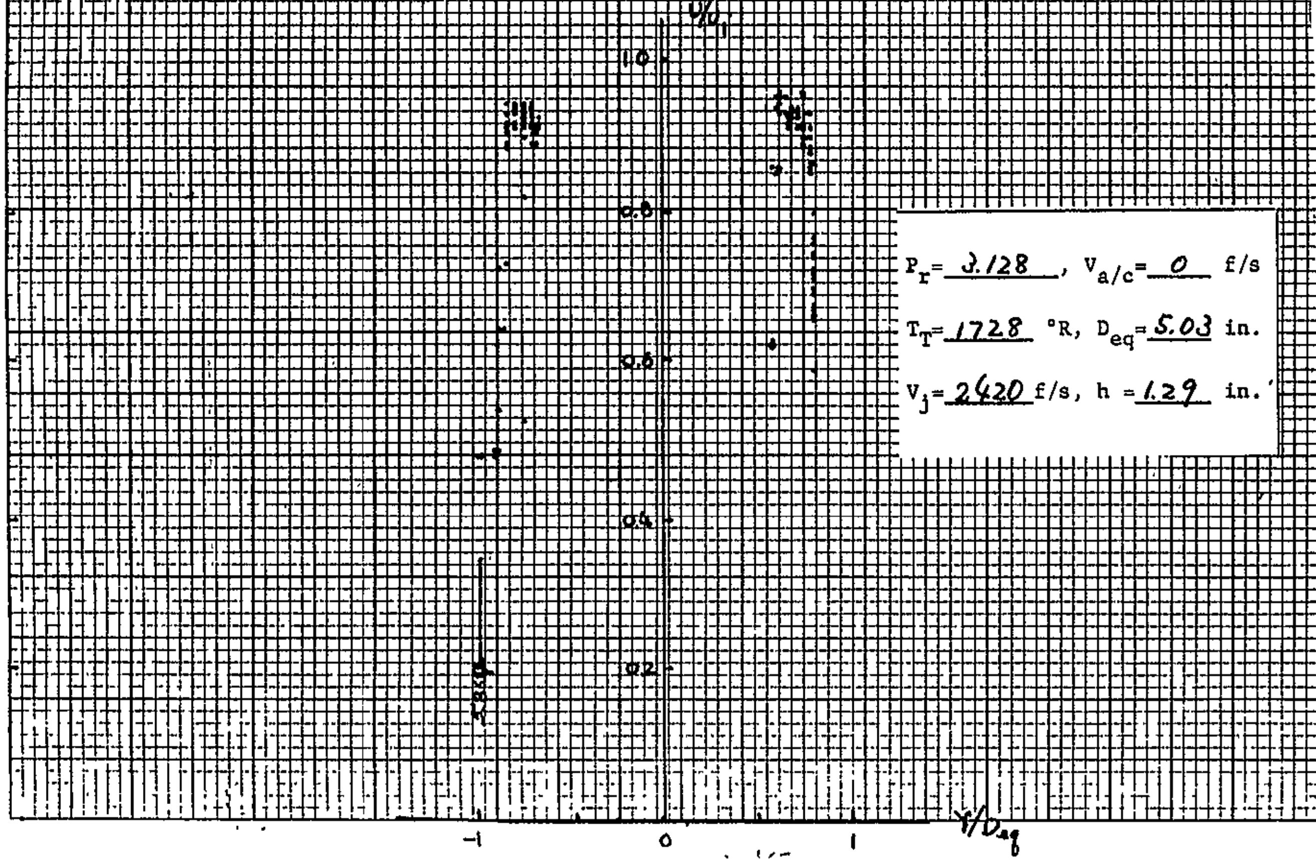
RADIAL ☒ : E.W. - ■ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-





P_r = 3.128 , $V_{a/c}$ = 0 f/s

T_T = 1728 °R, D_{eq} = 5.03 in.

V_j = 2420 f/s, h = 1.29 in.

1011 AX 10

1240

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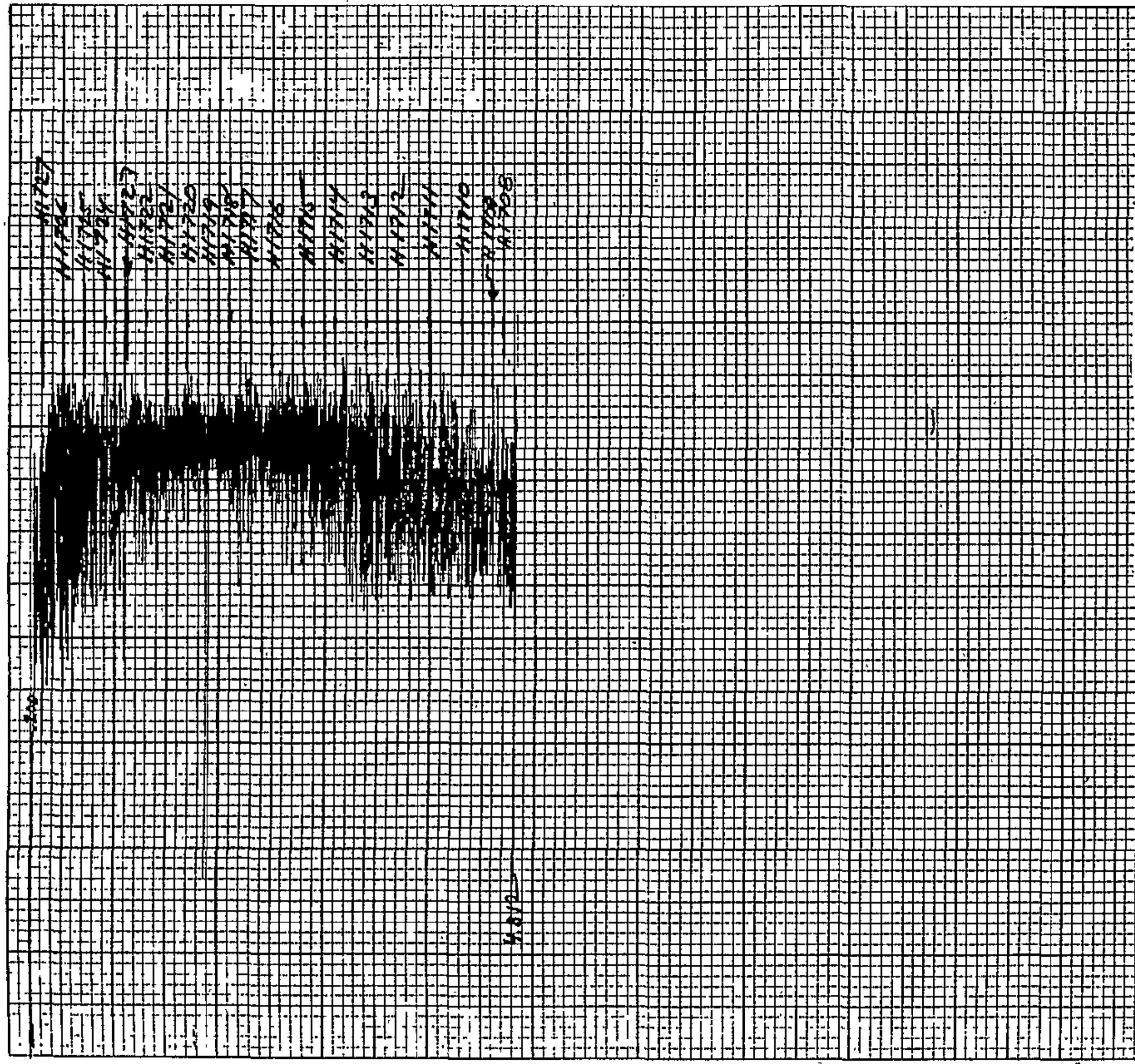


DATE: 5/20/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 755

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

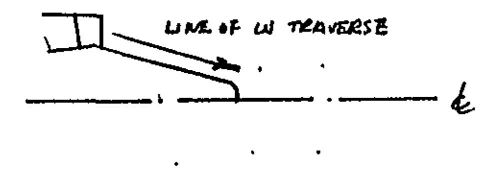
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H-1708 TO H-1727



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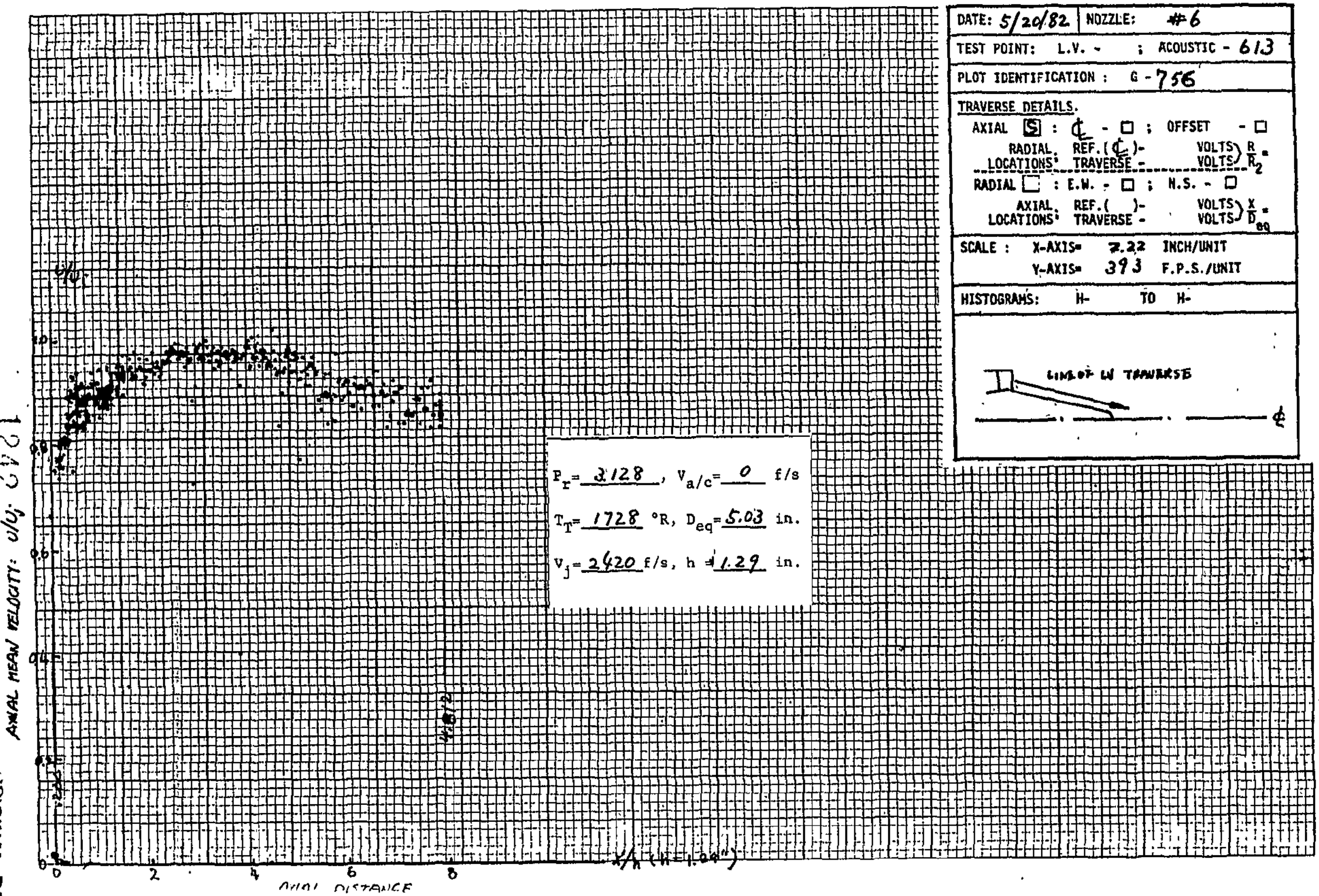

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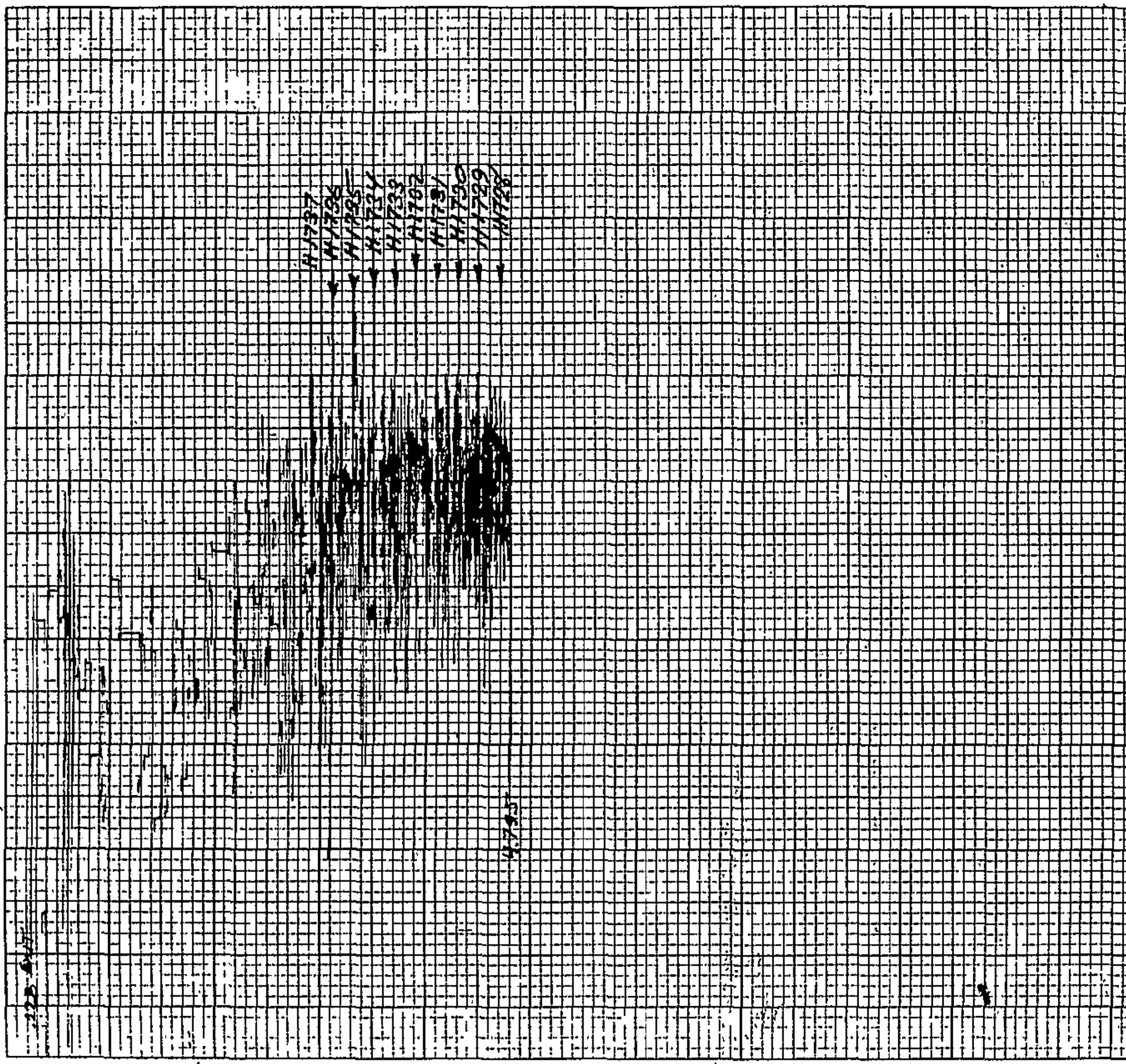


DATE: 5/20/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 757

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

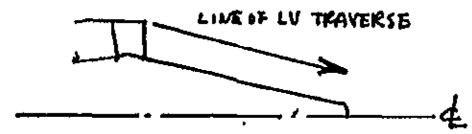
RADIAL LOCATIONS: REF.(℄)-TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

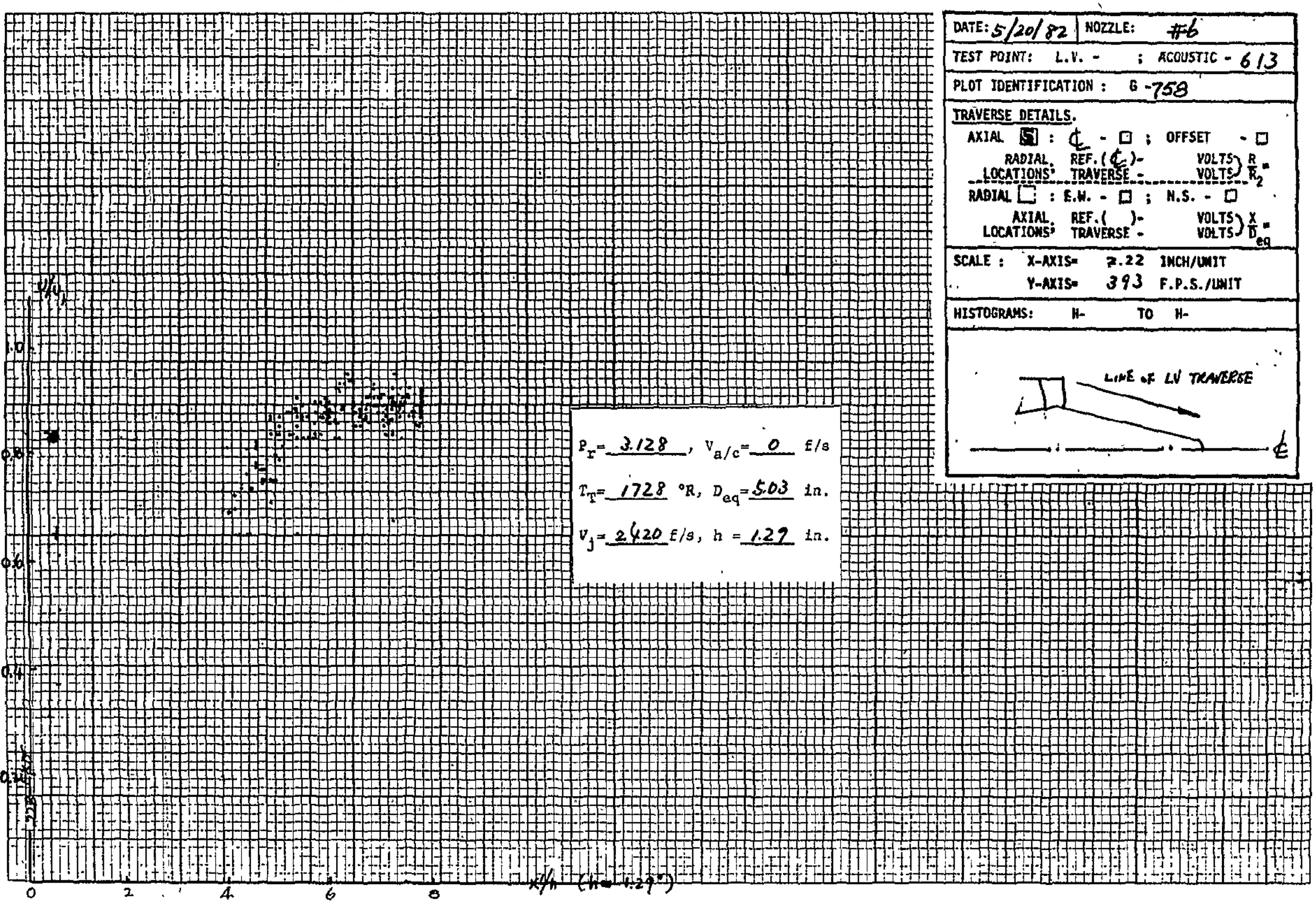
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )-TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H-1737 TO H-1728





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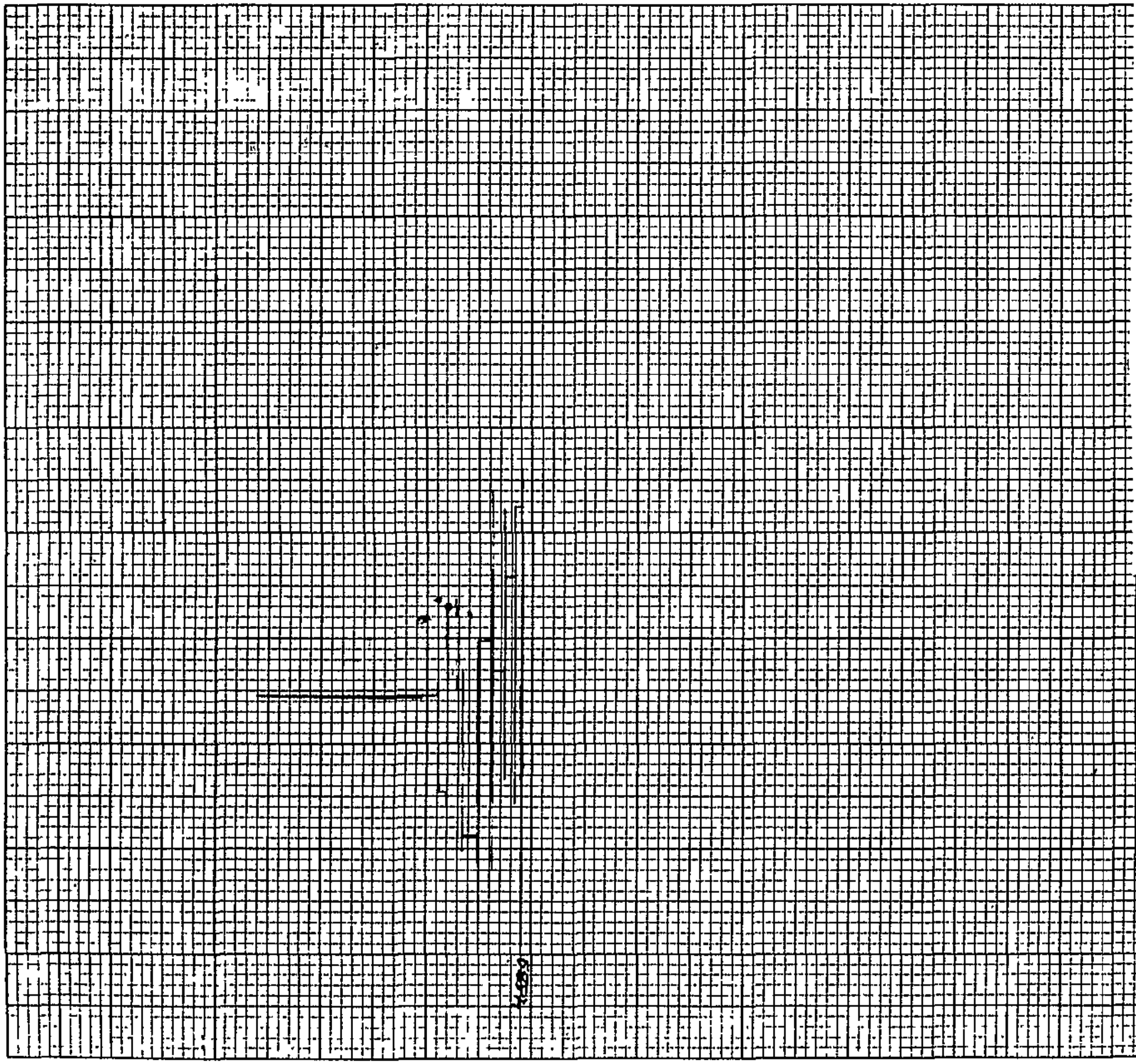


DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 759	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

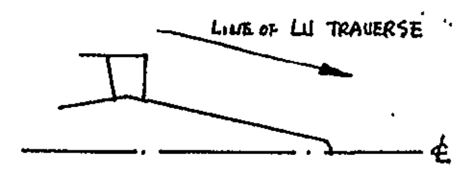
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

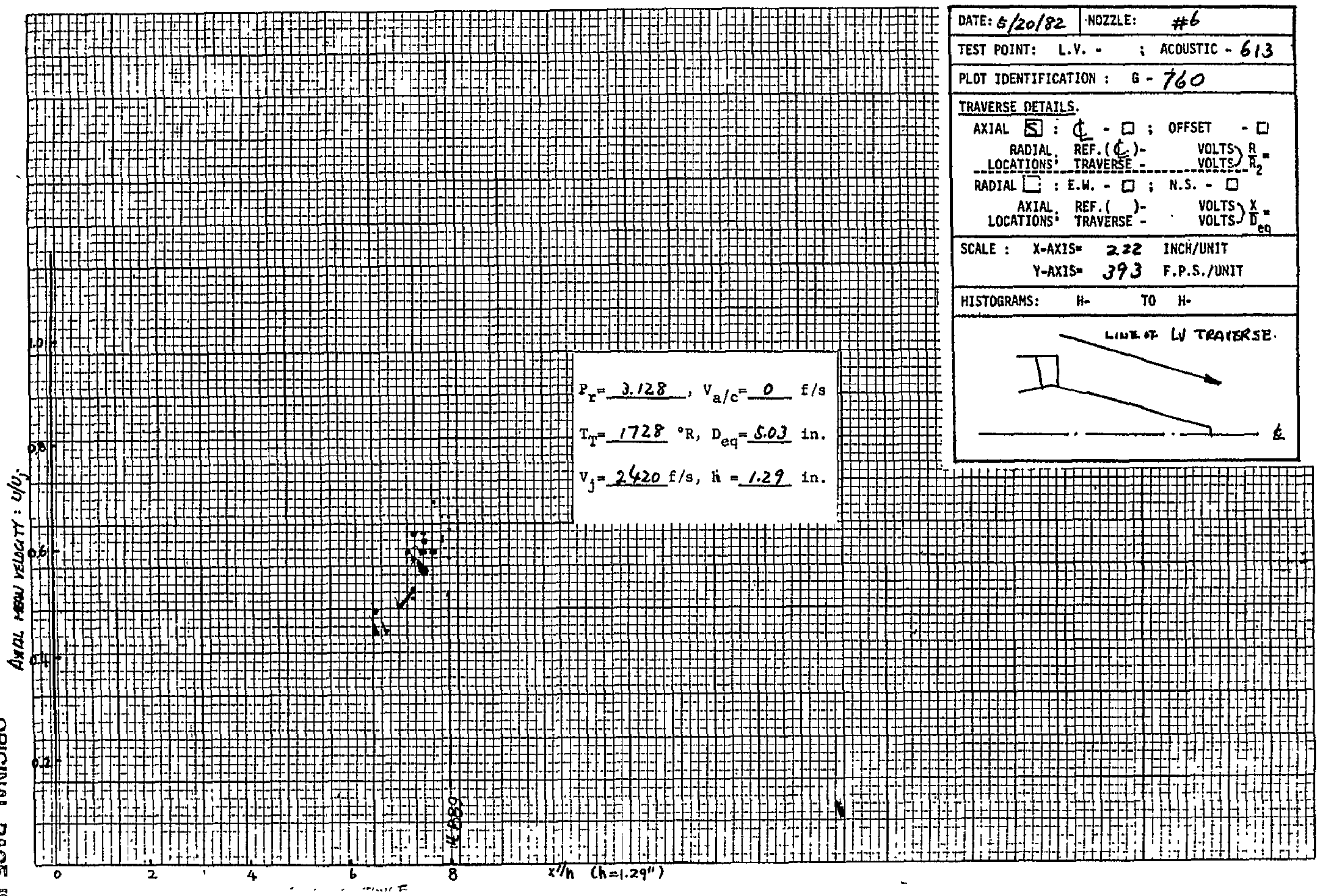
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1245



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DATE: 5/20/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 761

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

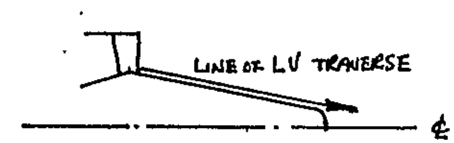
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

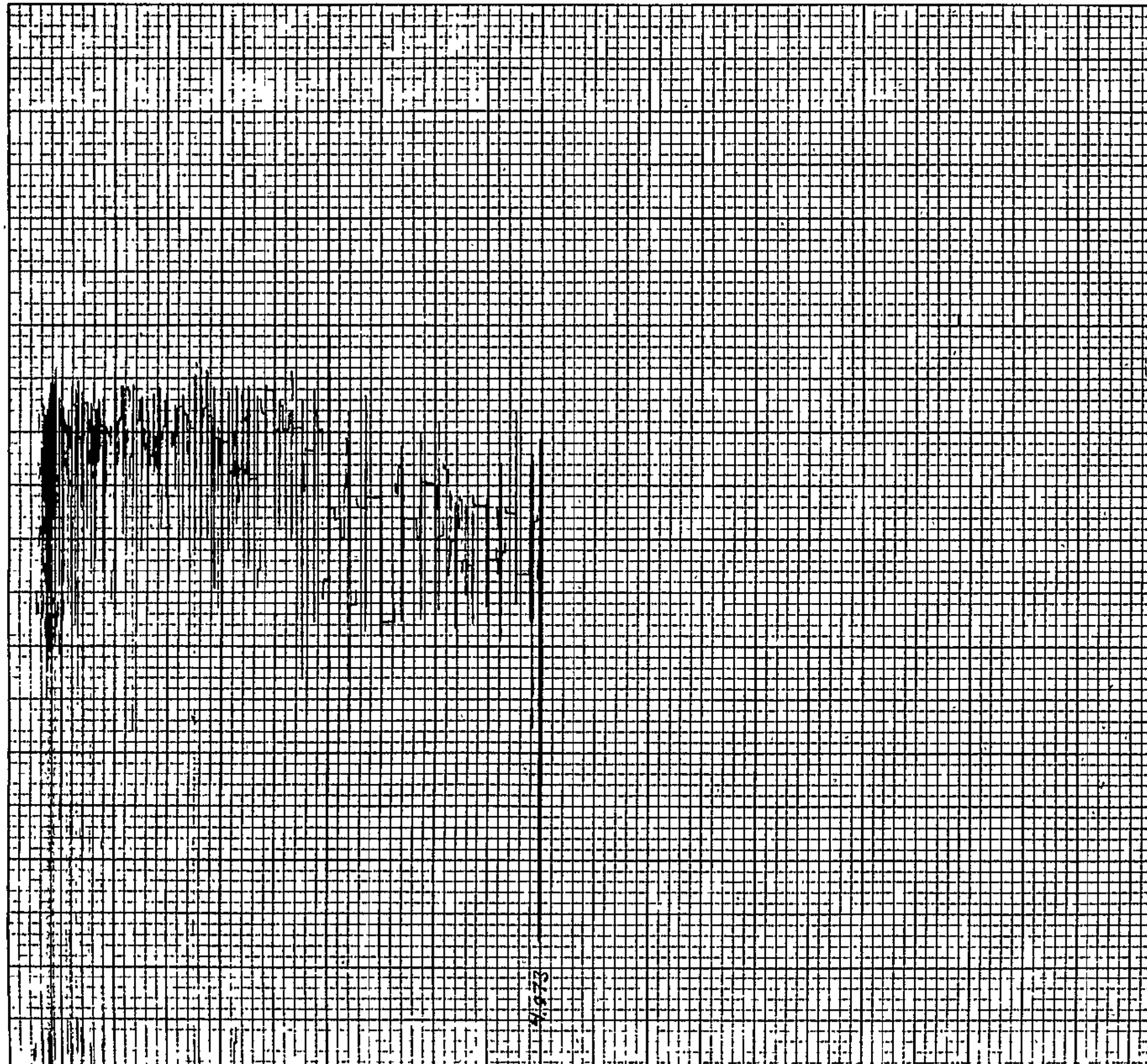
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 762	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

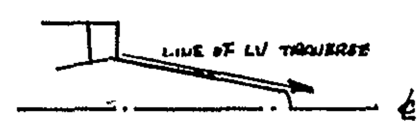
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

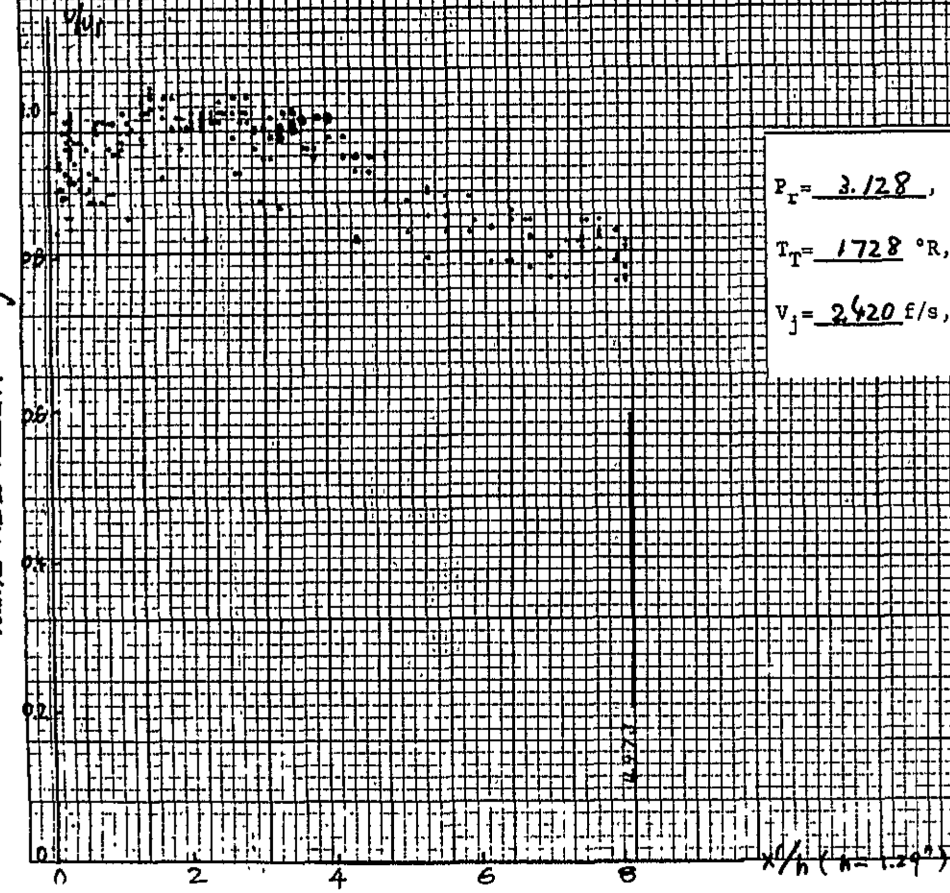
HISTOGRAMS: H- TO H-



P_r = 3.128, $V_{a/c}$ = 0 f/s

T_T = 1728 °R, D_{eq} = 5.03 in.

V_j = 2420 f/s, h = 1.29 in.



1248

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DATE: 5/20/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 762A

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

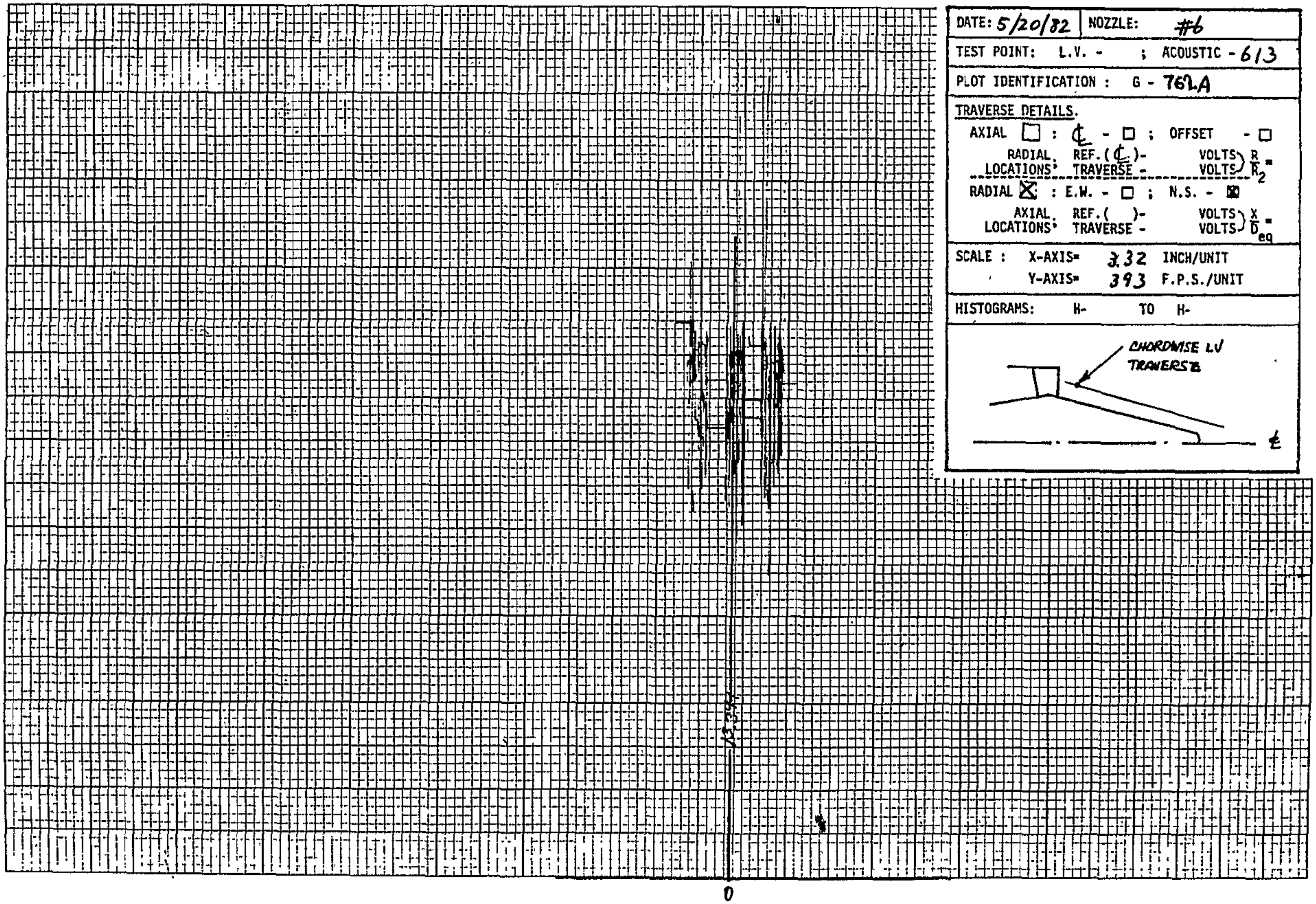
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1249

DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 762[illegible]-B	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$=

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$=

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-

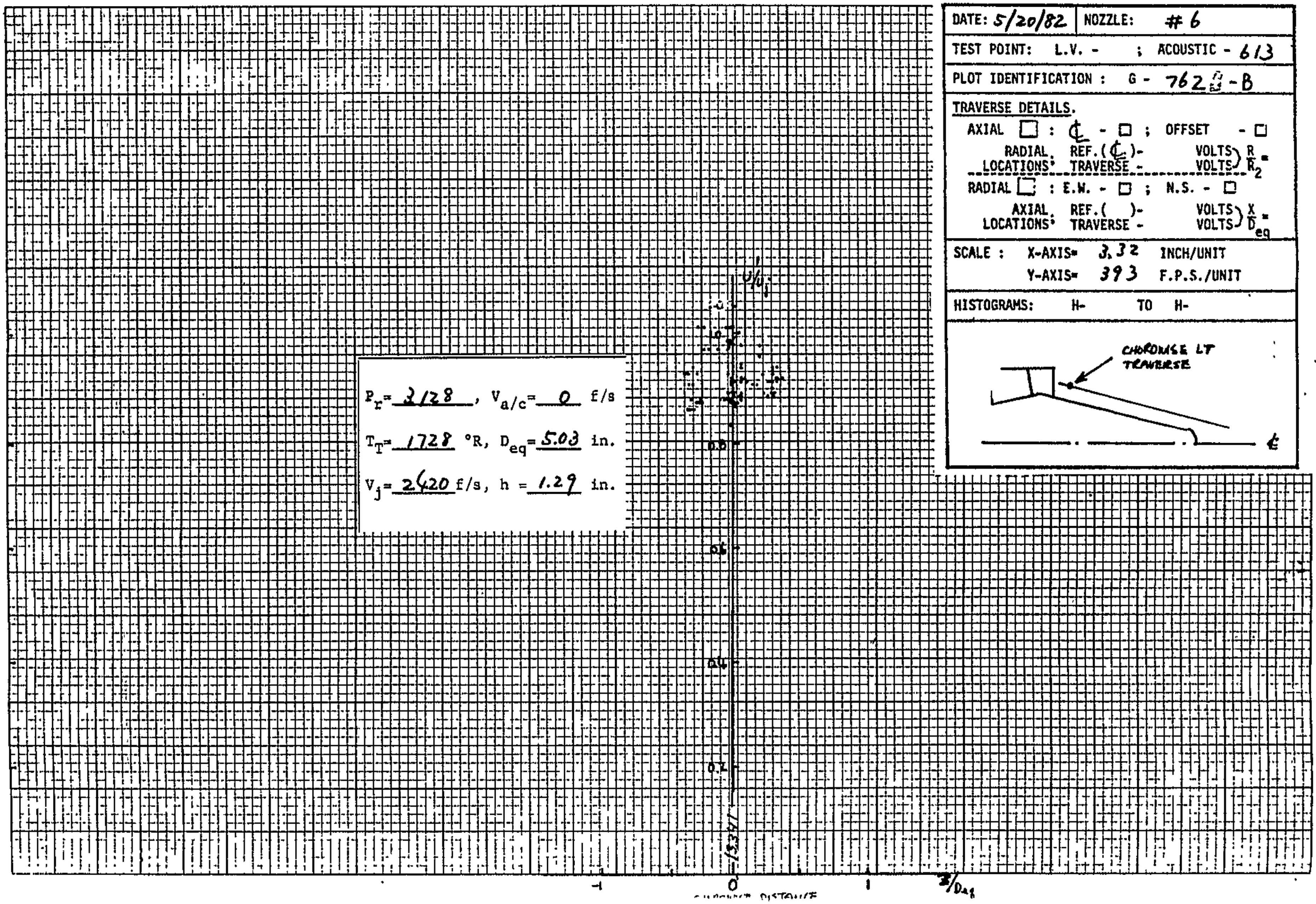
CHORDWISE LT TRAVERSE

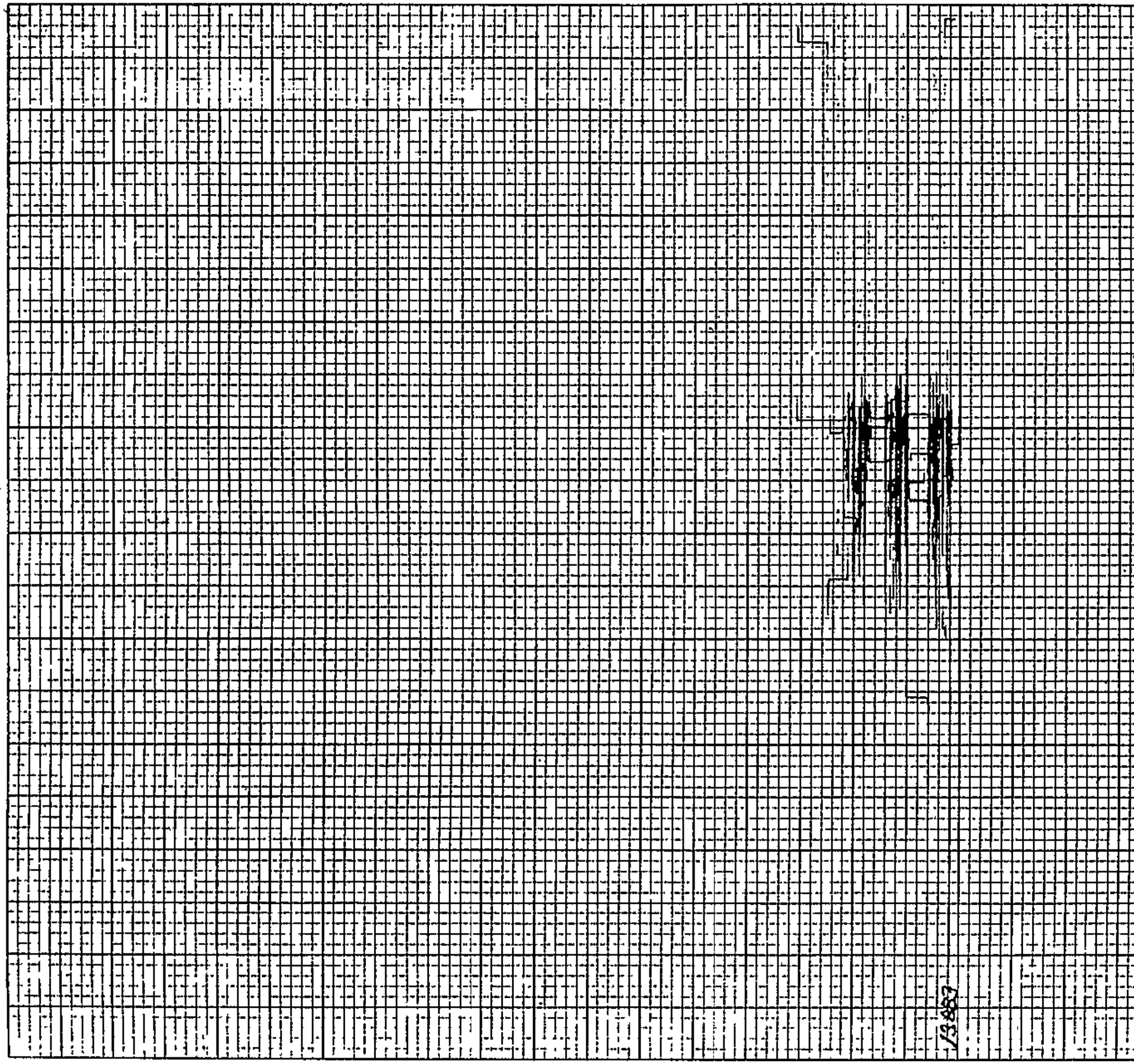
℄

P_r= 3.128, $V_{a/c}$= 0 f/s

T_T= 1728 °R, D_{eq}= 5.03 in.

V_j= 2420 f/s, h = 1.29 in.





DATE: 5/20/82	NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 763

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

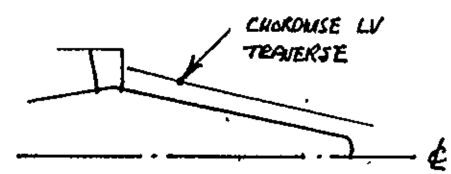
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

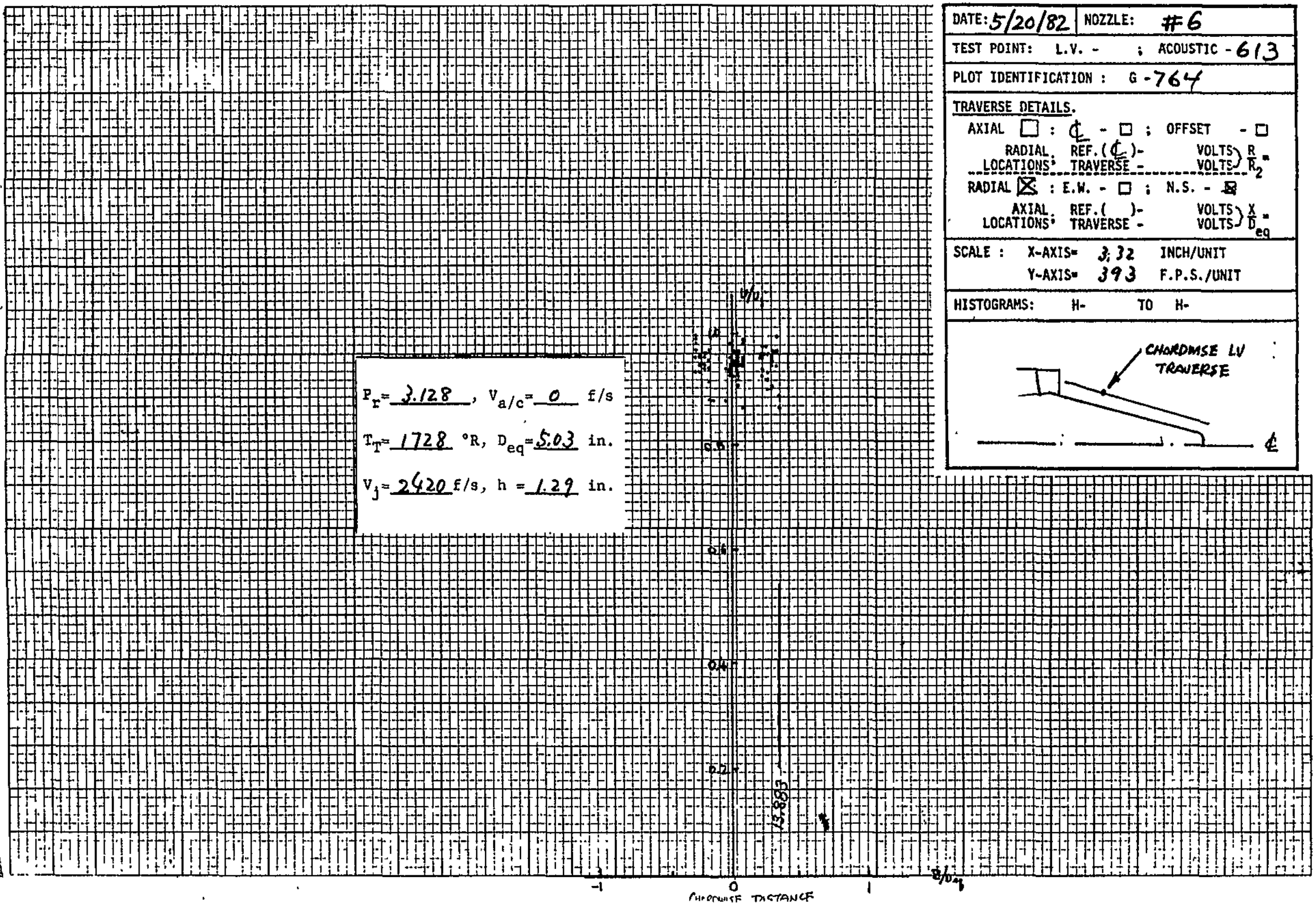
AXIAL LOCATIONS: REF. ( ) - VOLTS; TRAVERSE - VOLTS; $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

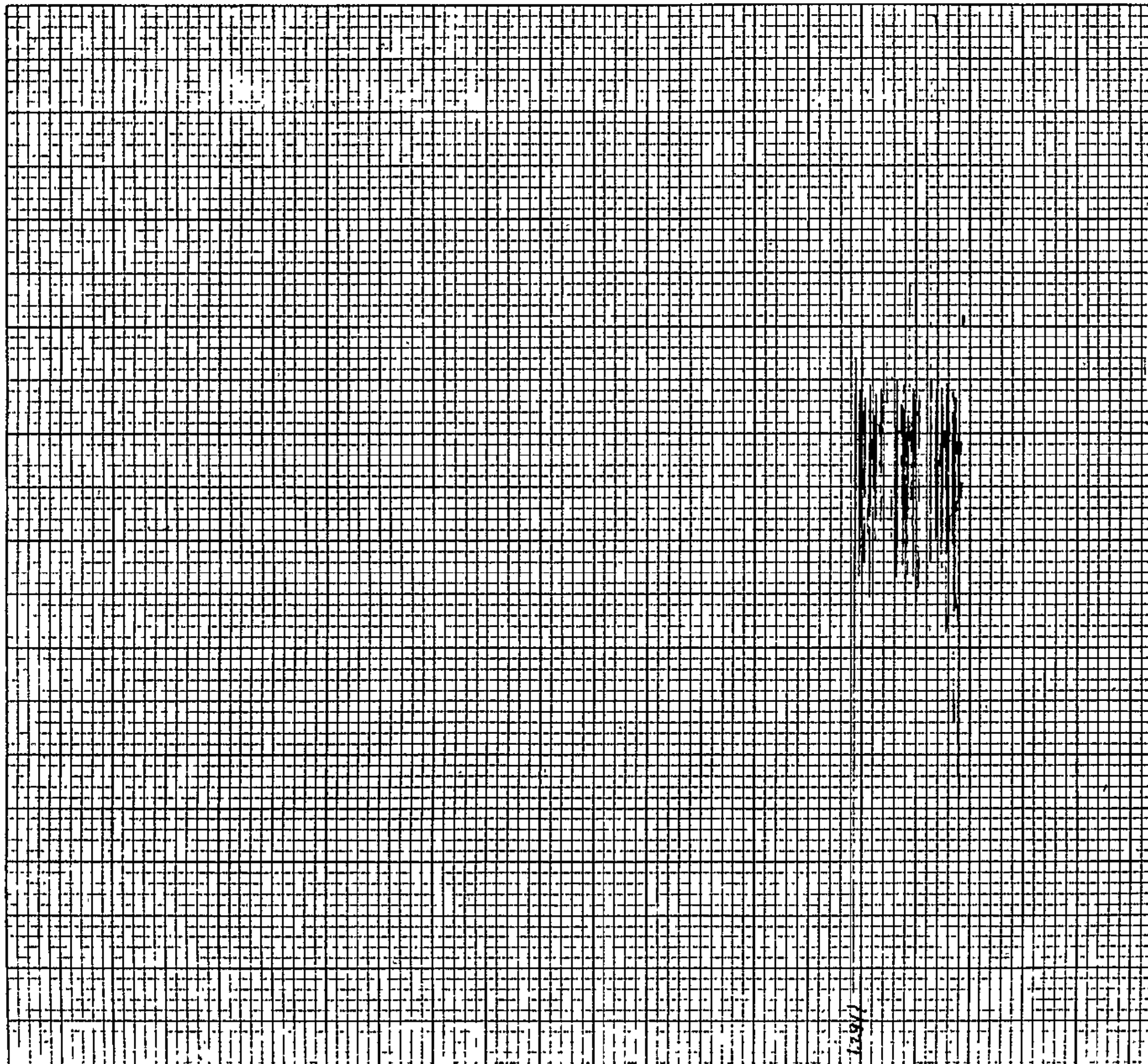
HISTOGRAMS: H- TO H-





1252

NO. XY 1101



DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 765	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

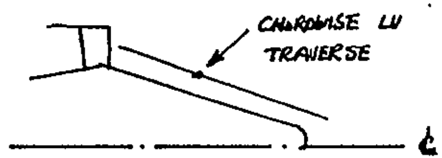
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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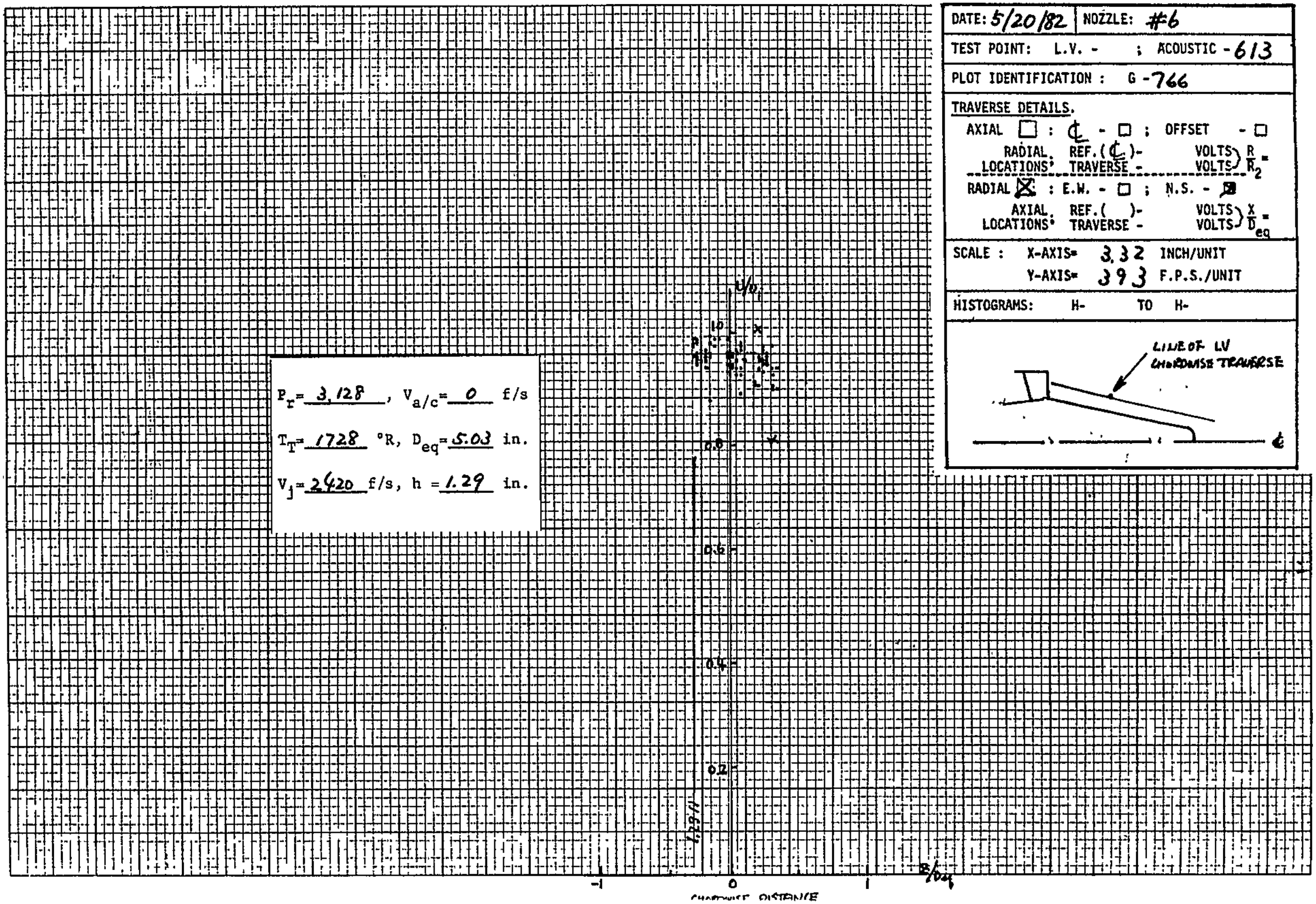
1253



P_r= 3.128 , $V_{a/c}$= 0 f/s

T_T= 1728 °R, D_{eq}= 5.03 in.

V_j= 2420 f/s, h = 1.29 in.

DATE: 5/20/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 766

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

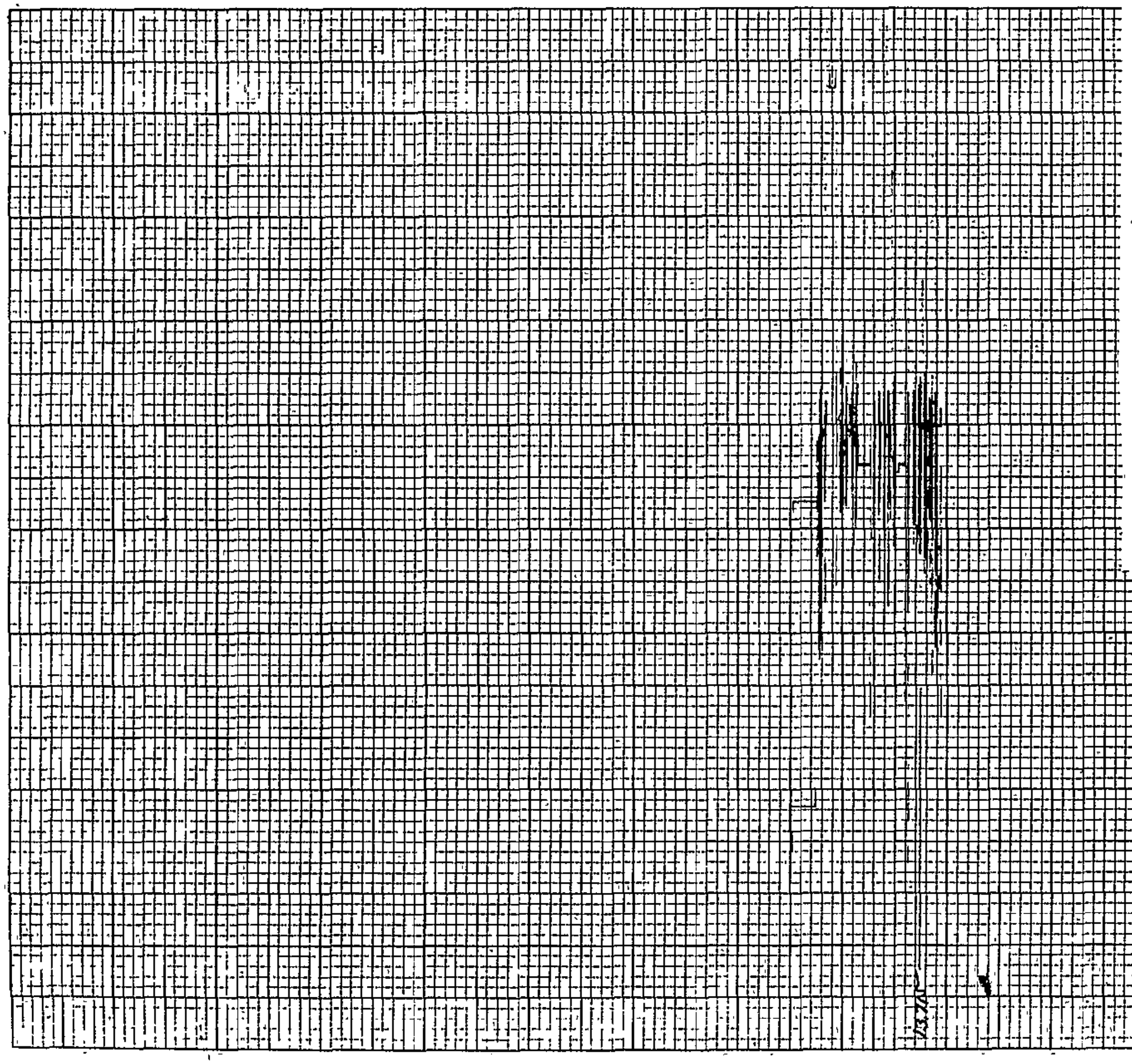
Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV CHORDWISE TRAVERSE

1254

ORIGINAL PAGE IS OF POOR QUALITY



DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 767	

TRAVERSE DETALLS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

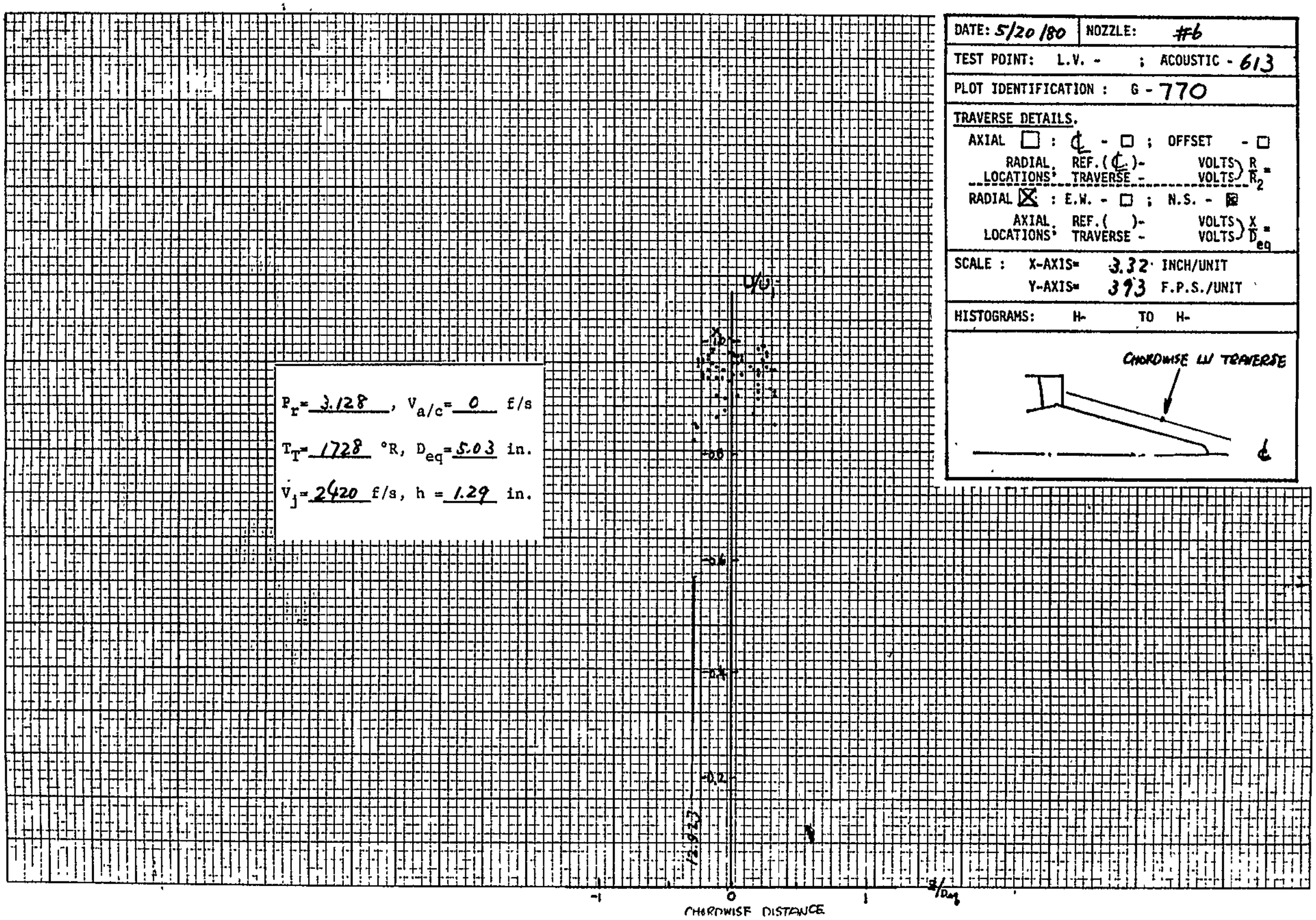
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\}\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\}\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 39.3 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 5/20/80 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 770

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-

CHORDWISE LV TRAVERSE

℄

P_r = 3.128 , $V_{a/c}$ = 0 f/s

T_T = 1728 °R, D_{eq} = 5.03 in.

V_j = 2420 f/s, h = 1.29 in.

1258

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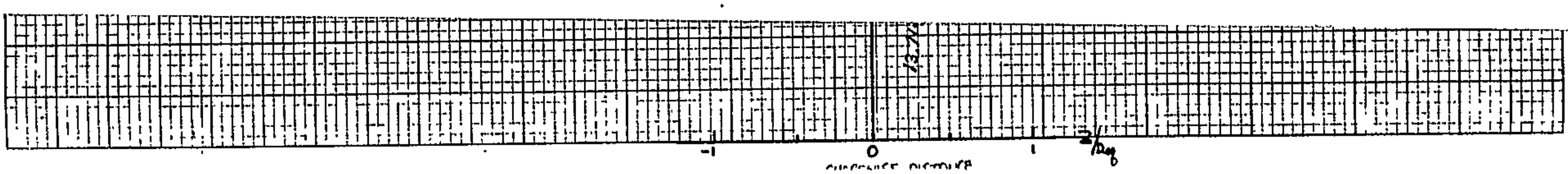

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1259

DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 771	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

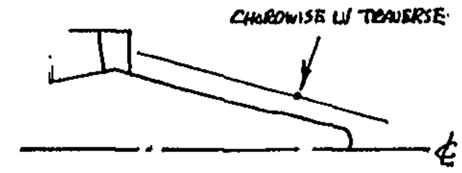
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

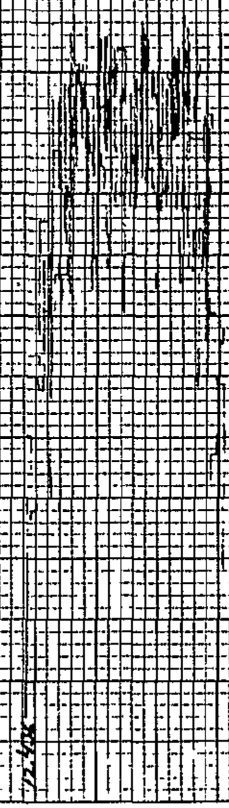
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

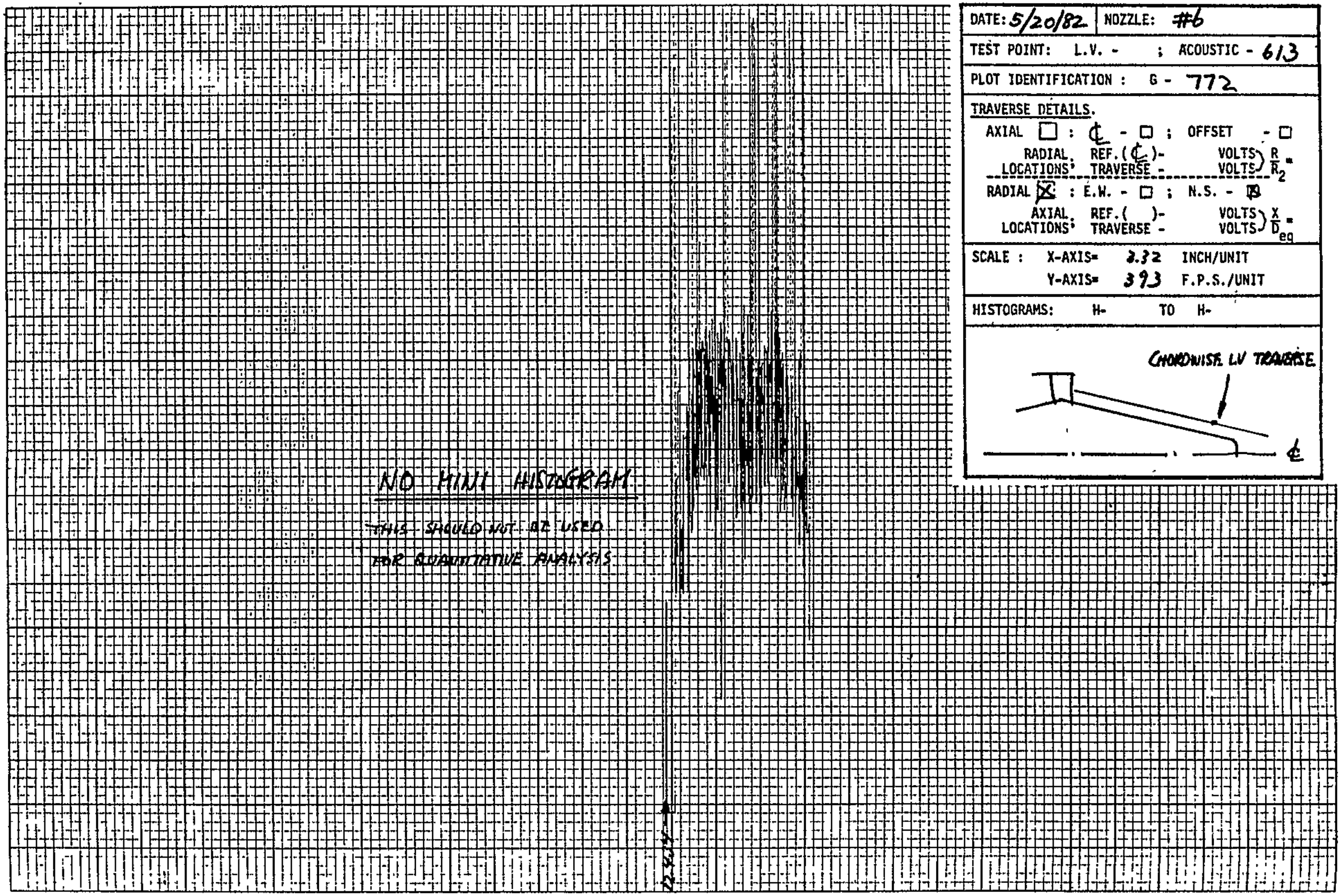
HISTOGRAMS: H- TO H-





NO MINI HISTOGRAM

THIS SHOULD NOT BE USED FOR QUANTITATIVE ANALYSIS



DATE: 5/20/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613	
PLOT IDENTIFICATION : G - 772	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☐ ; N.S. - ☒
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.32 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-

CHORDWISE LV TRAVERSE

NO. XY 1011

1260

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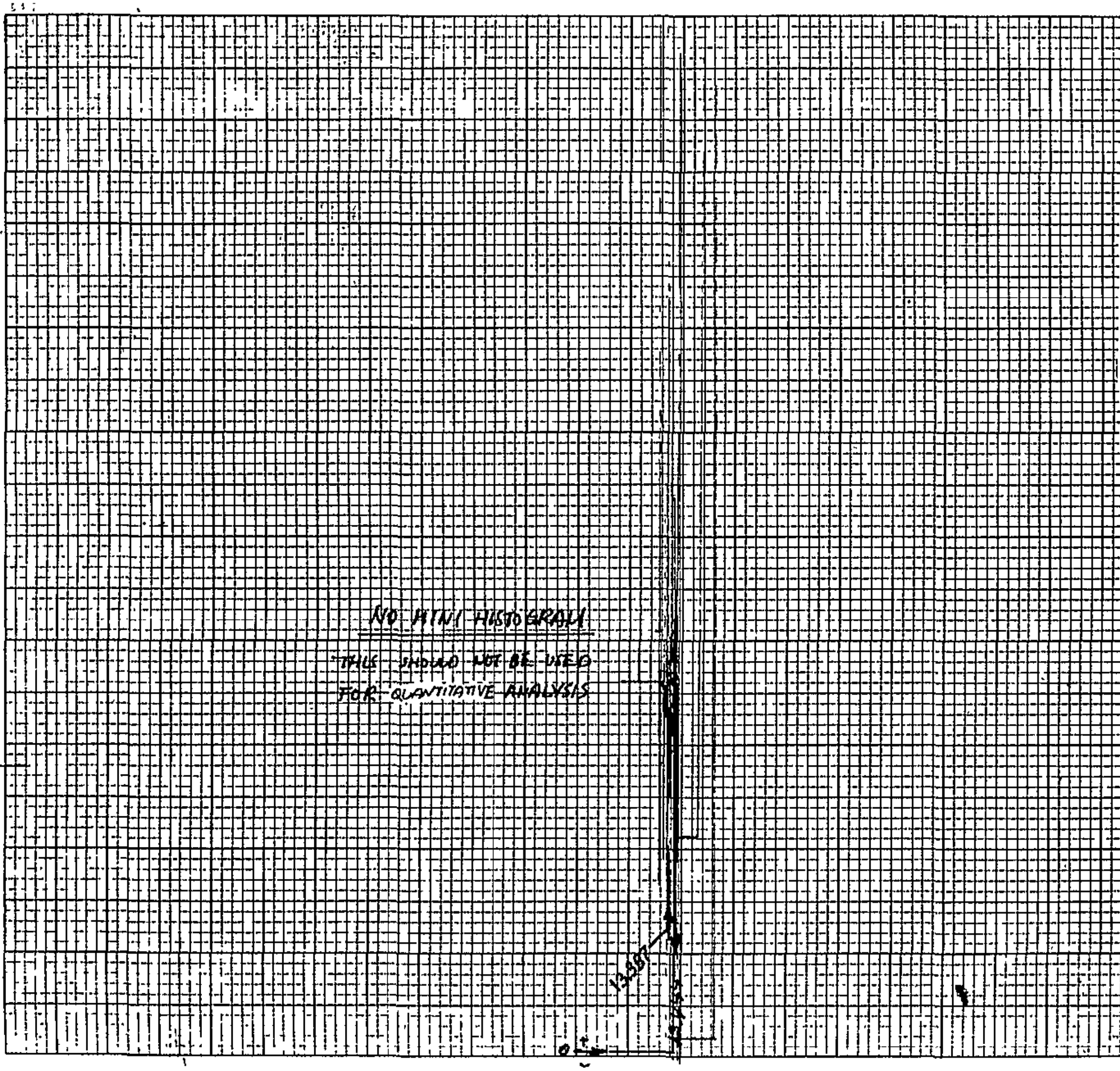
1261



DATE: 5/24/82 | NOZZLE: # 6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 773

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄) - TRAVERSE - VOLTS / VOLTS } $\frac{R}{R_2}$ =

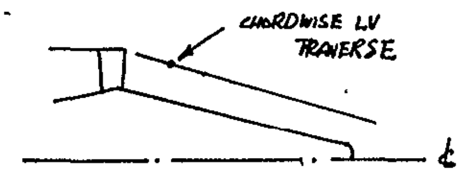
RADIAL ☒ : E.W. - ☒ ; N.S. - ☒

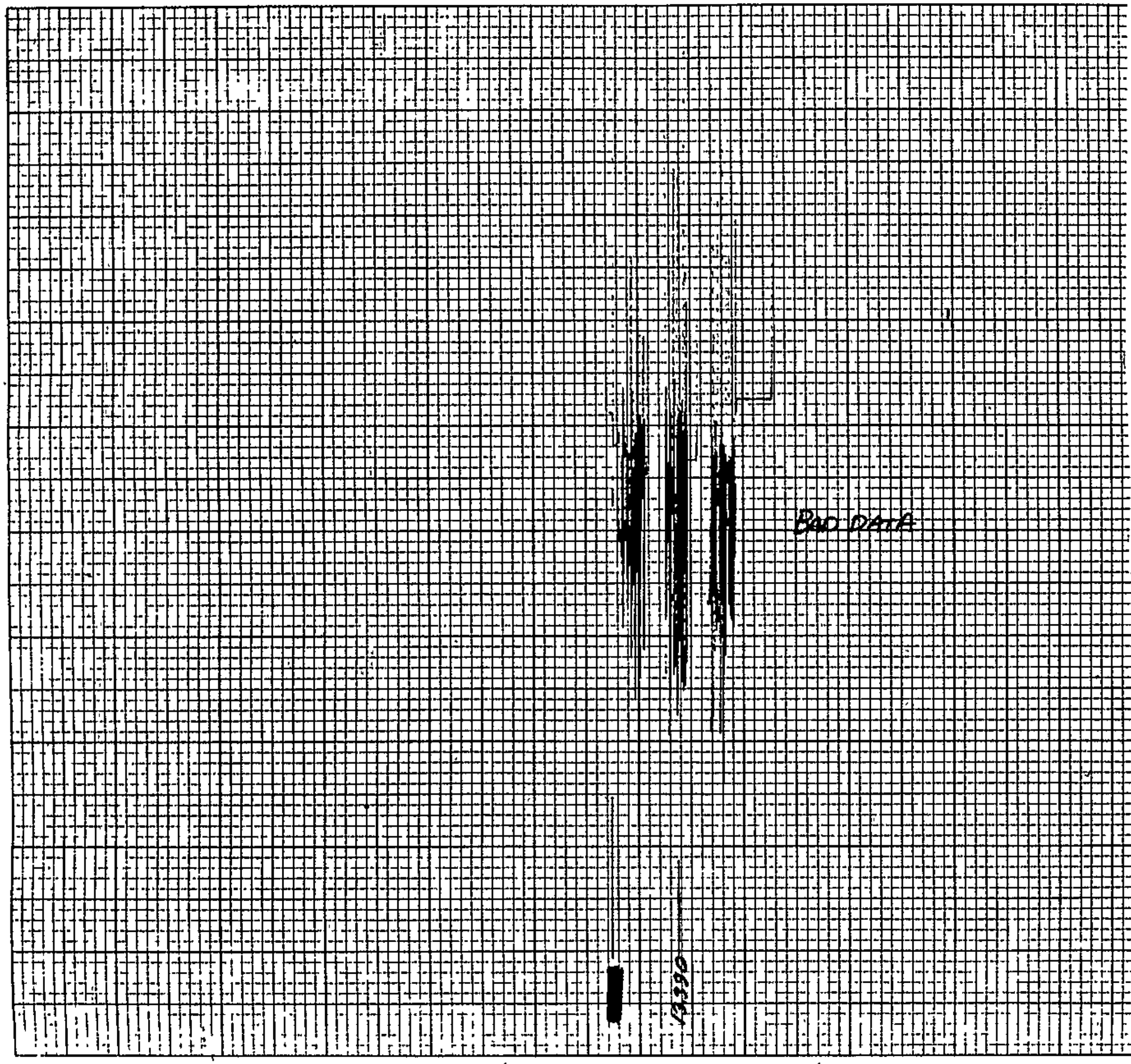
AXIAL LOCATIONS; REF. ( ) - TRAVERSE - VOLTS / VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 5/24/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 613

PLOT IDENTIFICATION : G - 774

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

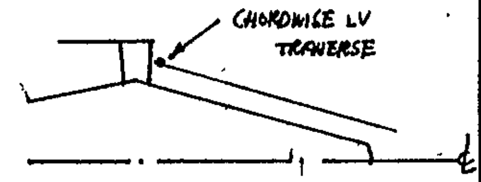
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

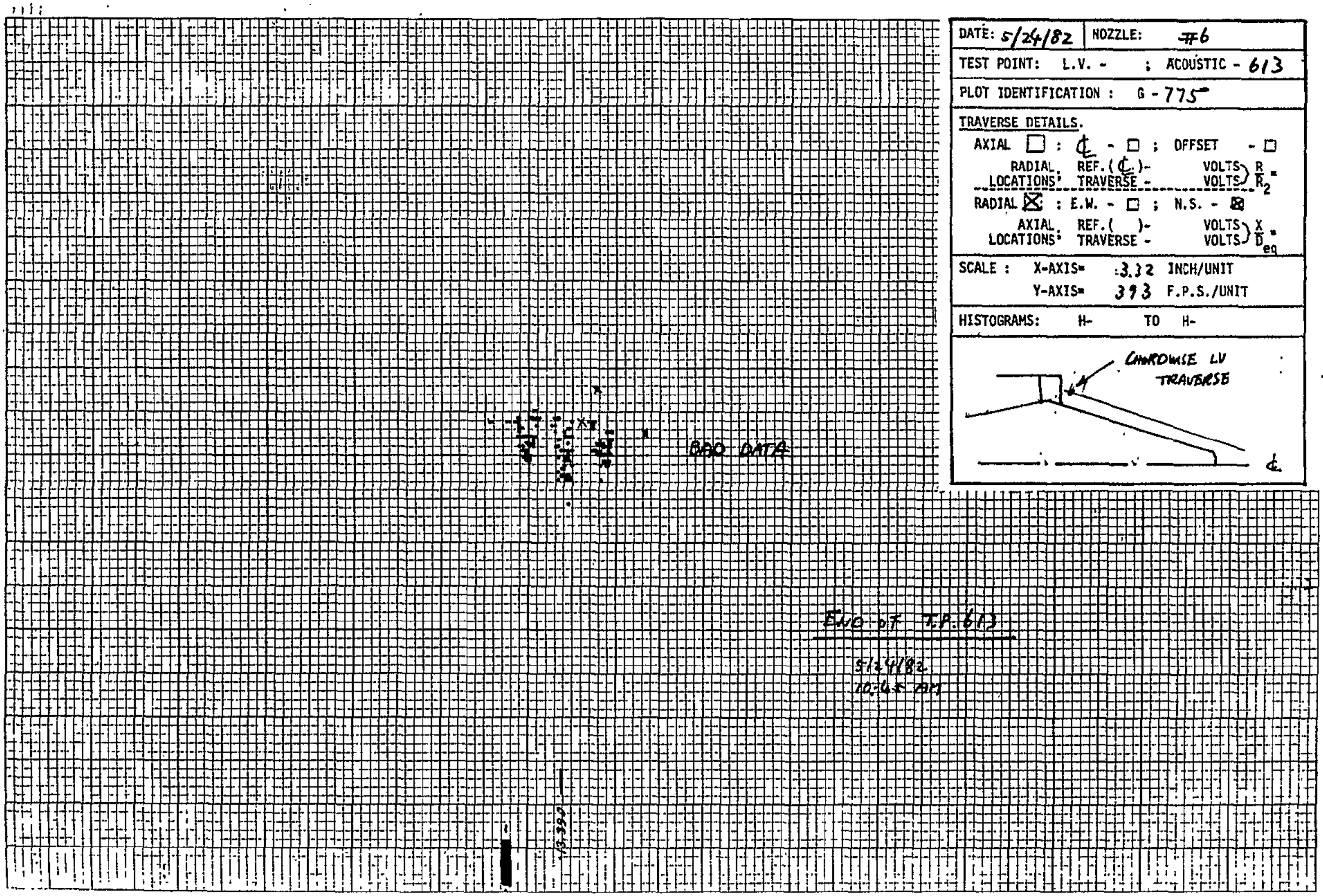
Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



NO. XY 1101

1262


DATE: 5/24/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 613
PLOT IDENTIFICATION : G - 775
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL ☒ : E.W. - ☐ ; N.S. - ☒
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT
HISTOGRAMS: H- TO H-
CHORDWISE LV TRAVERSE
℄
BAD DATA
End of T.P. 613
5/24/82
10:45 AM

Model 6

Test Point 614

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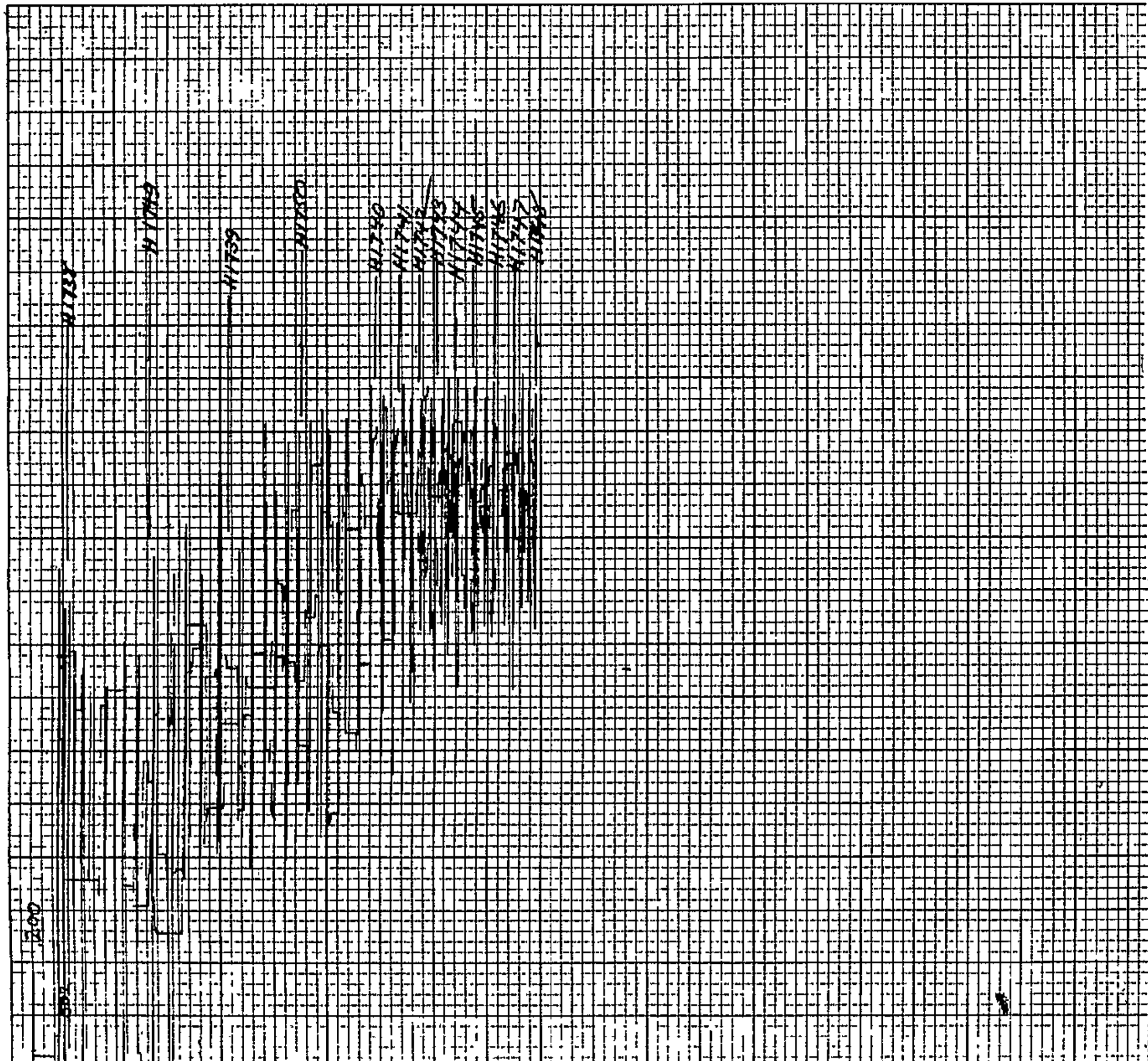


DATE: 5/24/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G - 776

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS } $\frac{R}{R_2}$ =

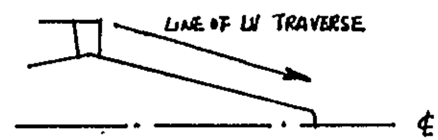
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS } $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- 1738 TO H- 1748

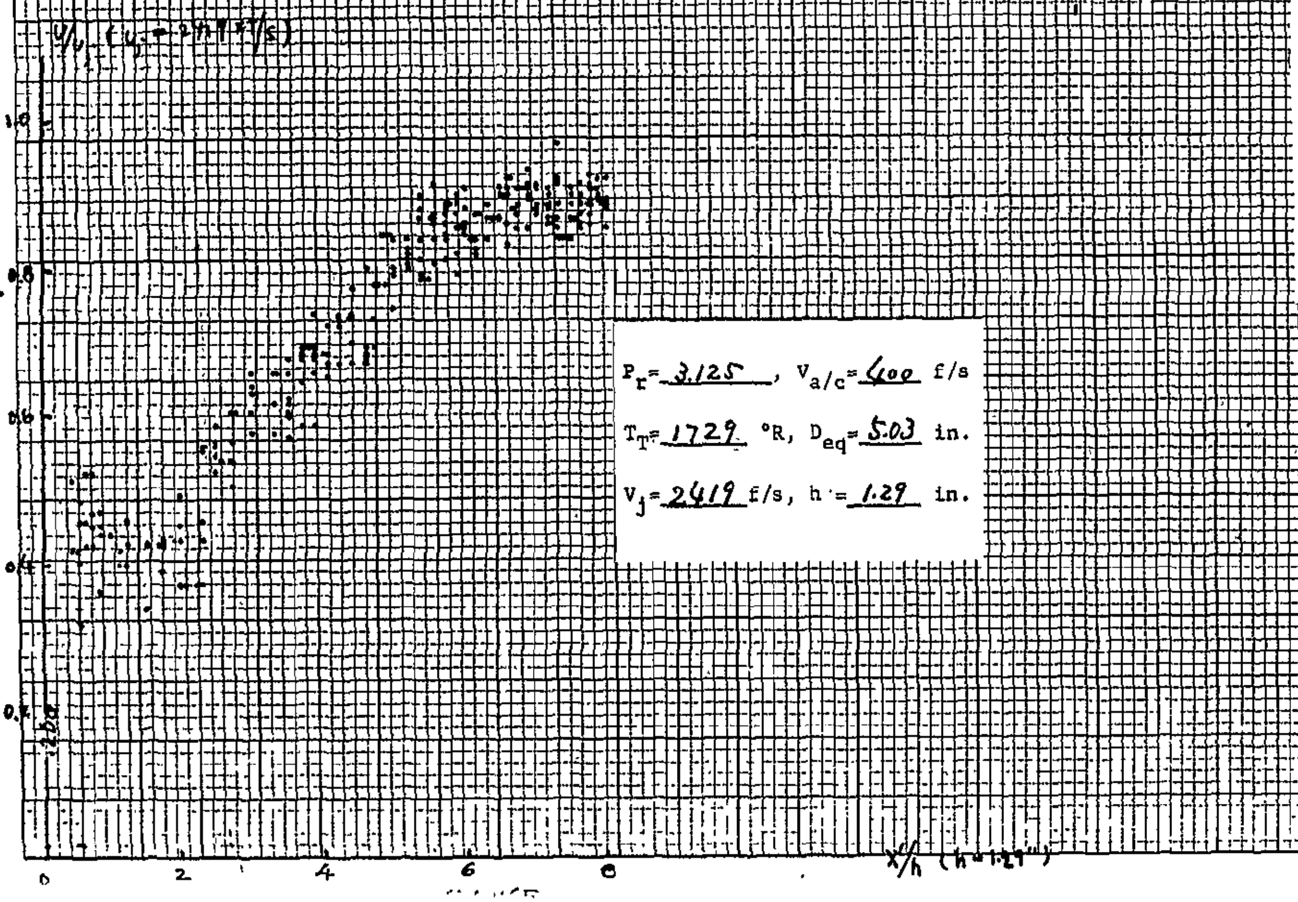


1265

NO. XY 1101

RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO NEW YORK

C-8



DATE: 5/24/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G-777

TRAVERSE DETAILS.

AXIAL [S] : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄

P_r = 3.125 , $V_{a/c}$ = 400 f/s

T_T = 1729 °R, D_{eq} = 5.03 in.

V_j = 2419 f/s, h = 1.29 in.

1266

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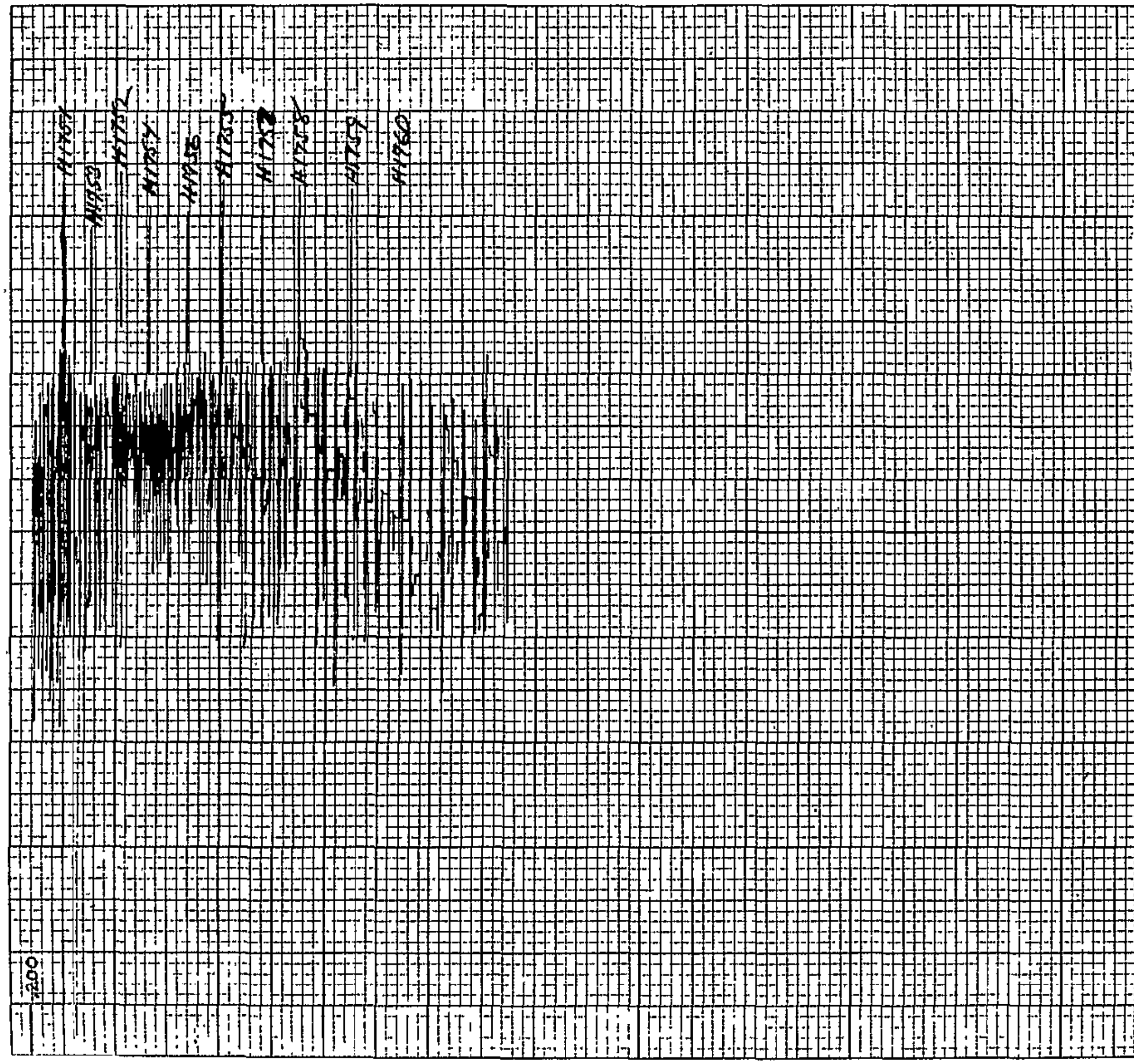

DATE: 5/24/82	NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G - 778

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) R/R_2 =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- 1751 TO H- 1760

1267

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OF POOR QUALITY

DATE: 5/24/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614	
PLOT IDENTIFICATION : G - 779	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

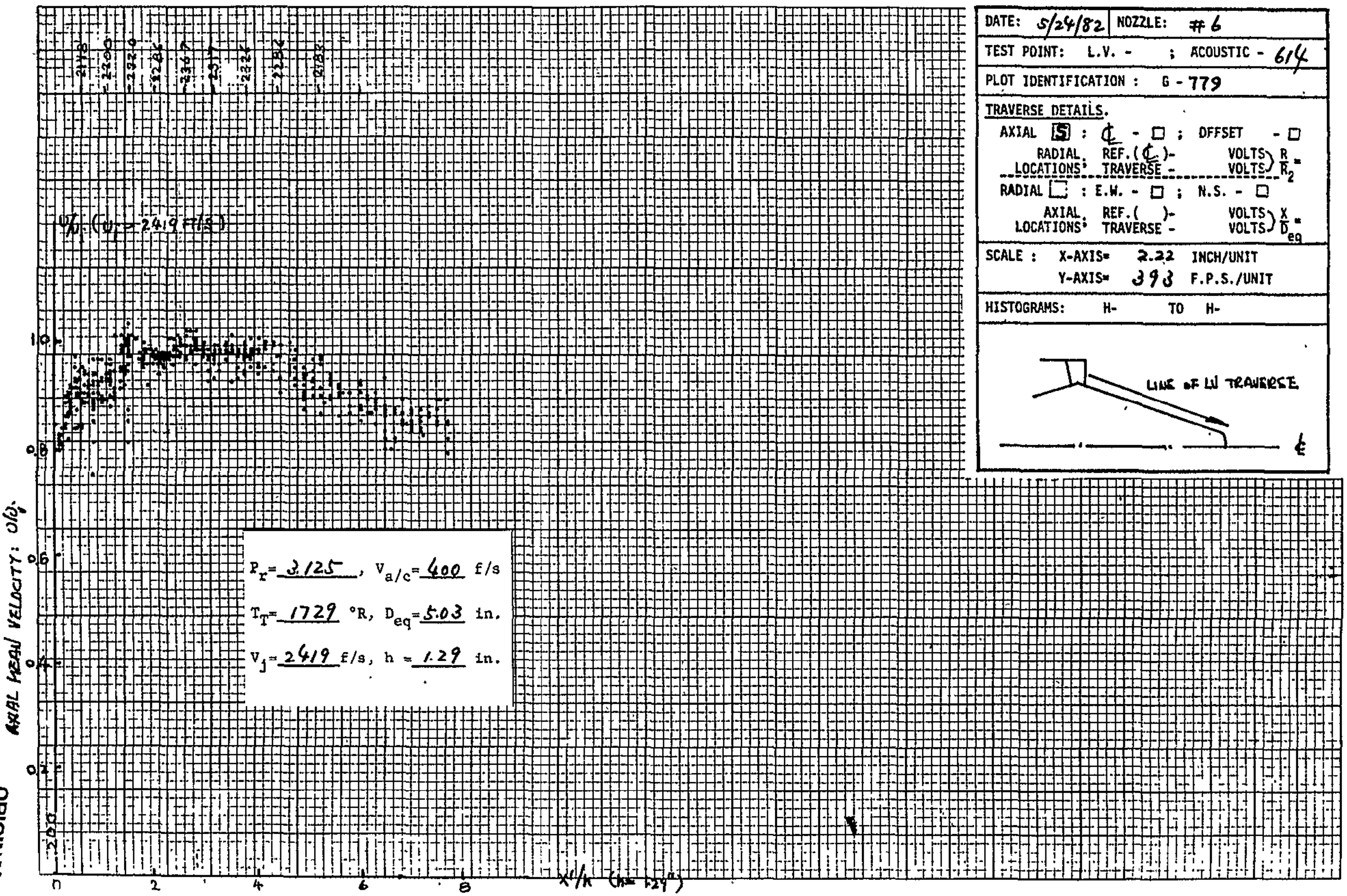
RADIAL □ : E.W. - □ ; N.S. - □

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



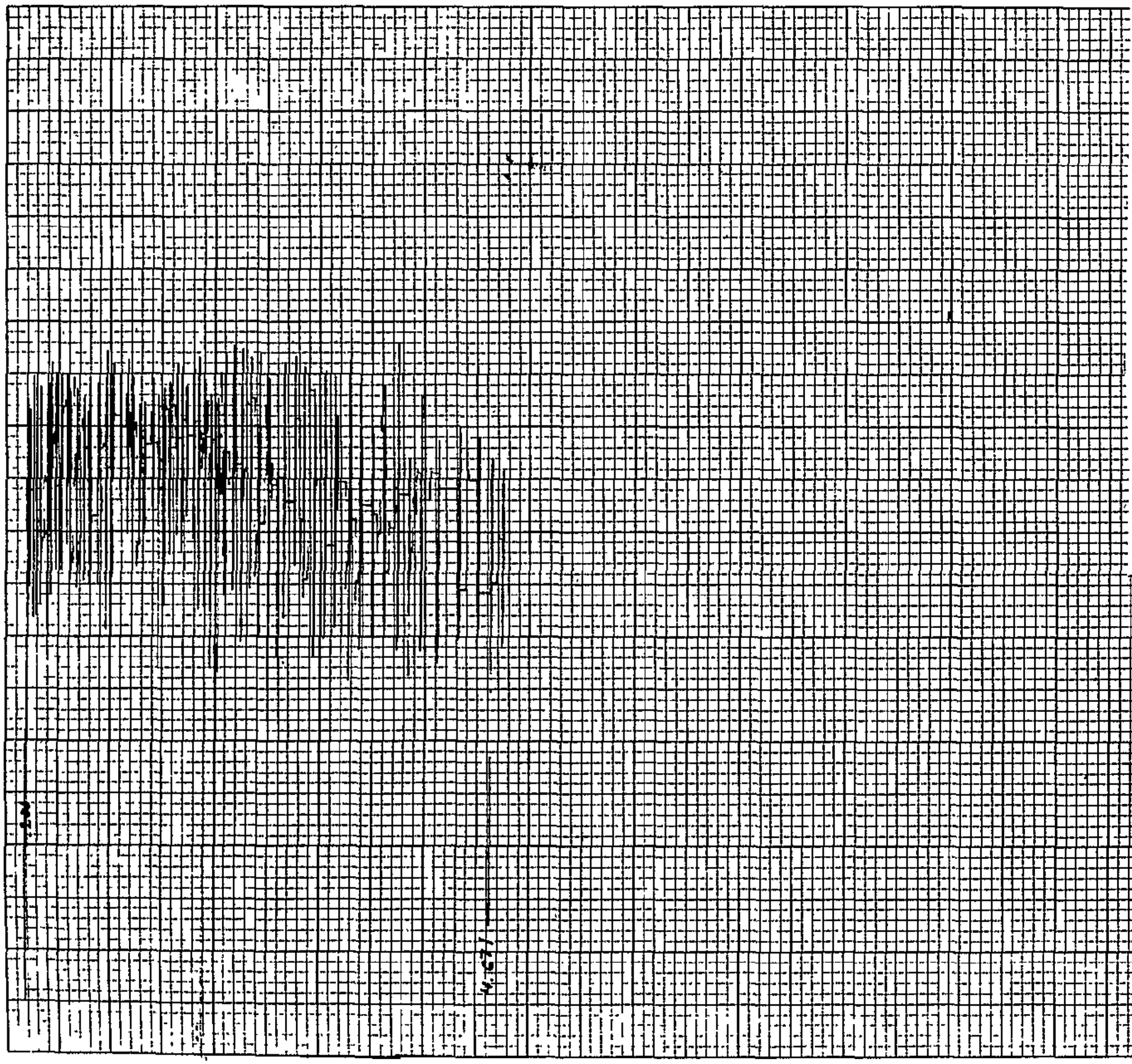
P_r= 3.125 , $V_{a/c}$= 400 f/s

T_T= 1729 °R, D_{eq}= 5.03 in.

V_j= 2419 f/s, h = 1.29 in.

1268

NO. XY 1101



DATE: 5/24/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614	
PLOT IDENTIFICATION : G - 780	

TRAVERSE DETAILS.

AXIAL $\boxed{S}$: ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

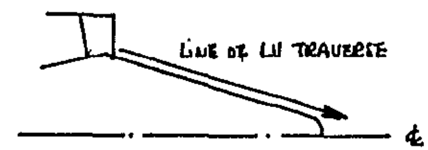
RADIAL □ : E.W. - □ ; N.S. - □

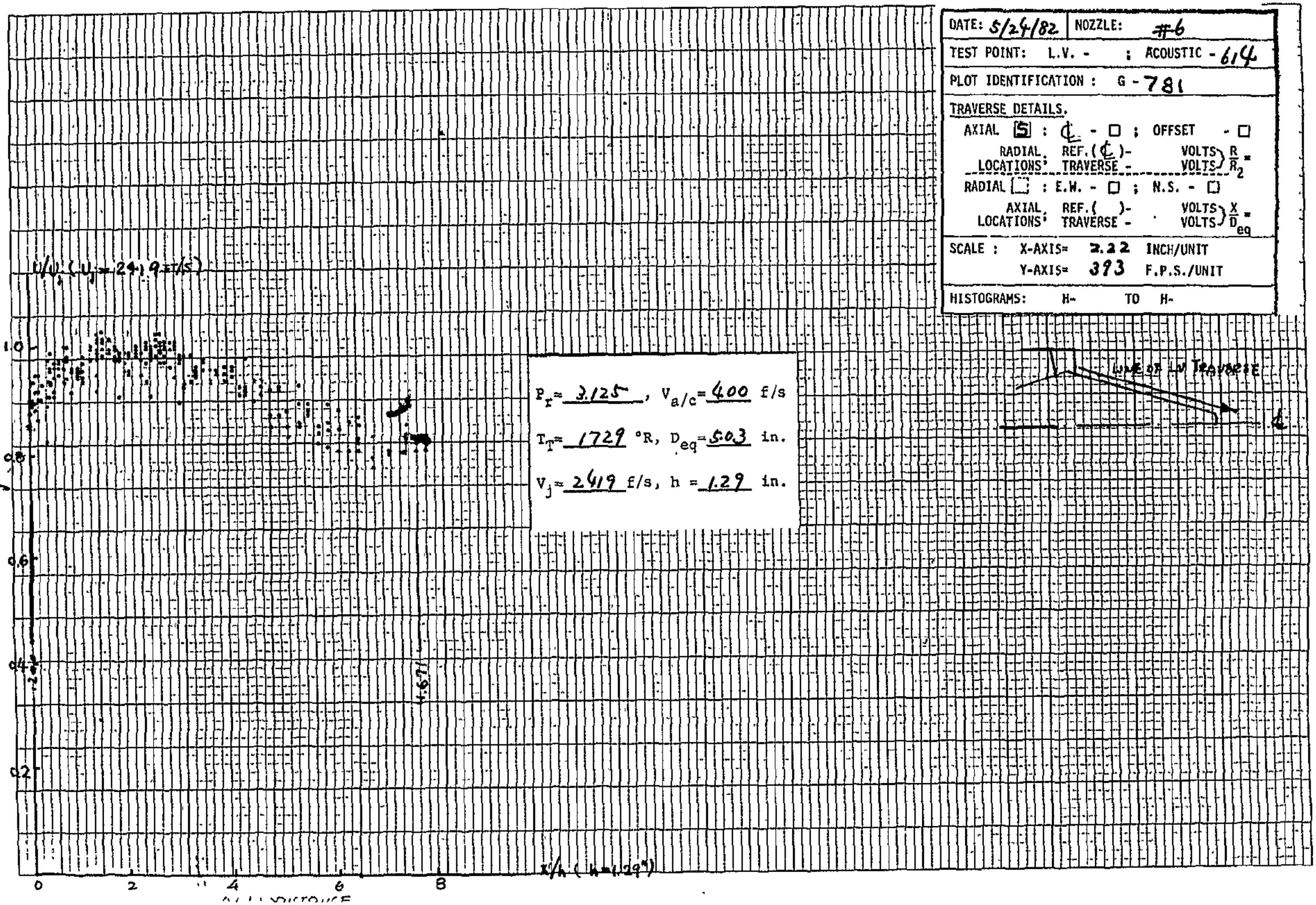
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

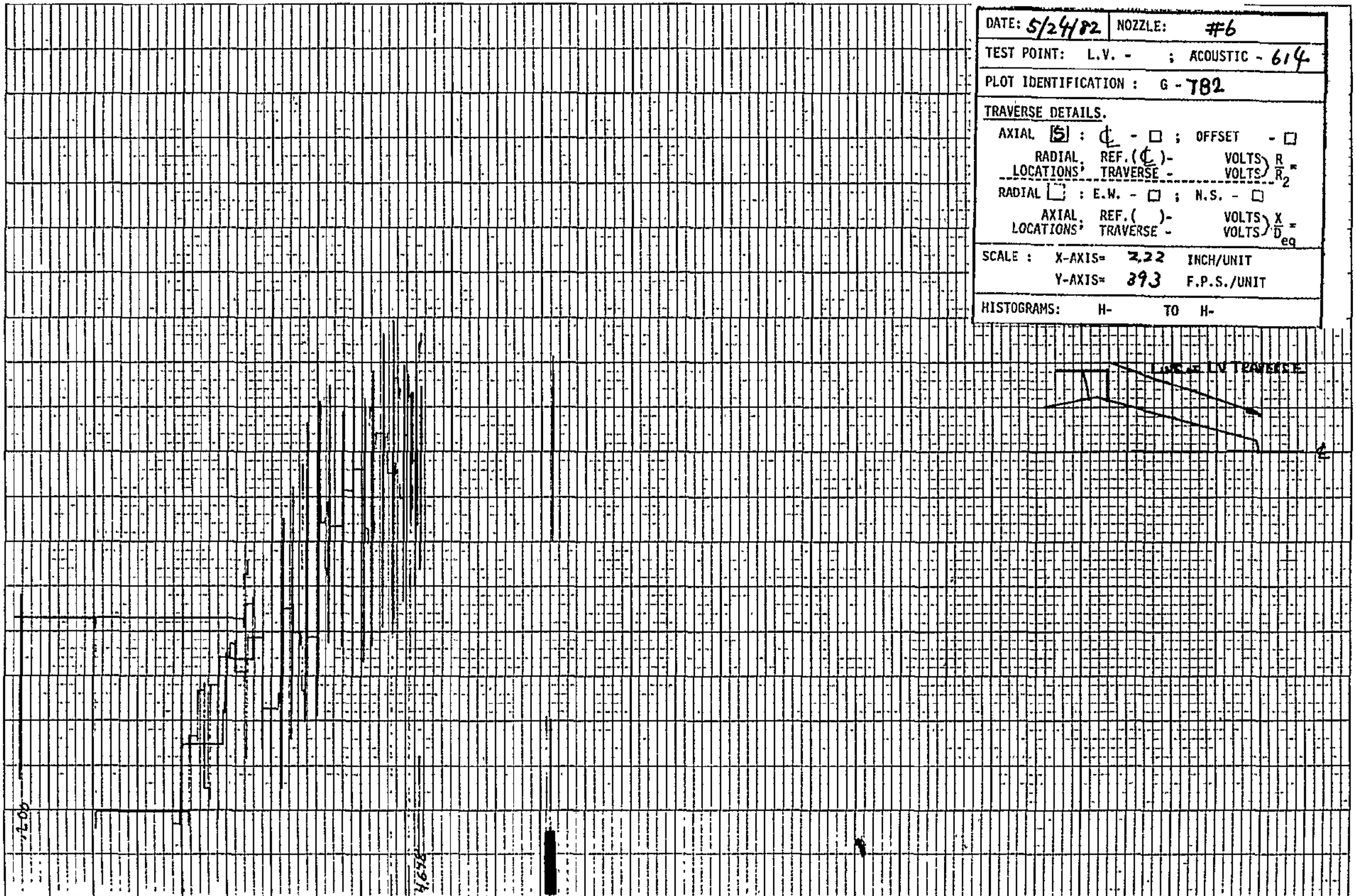
Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-





DATE: 5/24/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614
PLOT IDENTIFICATION : G - 781
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT
HISTOGRAMS: H- TO H-
Pr = 3.125 , Va/c = 400 f/s
TT = 1729 °R, Deq = 5.03 in.
Vj = 2419 f/s, h = 1.29 in.
U/Uj (Uj = 2419 FT/S)
AXIAL MEAN VELOCITY : U/Uj
1.0
0.8
0.6
0.4
0.2
0
2
4
6
8
4.67
X/h (h=1.29")
AXIAL DISTANCE
LINE OF LV TRAVERSE
℄



No. XY 1101

1271

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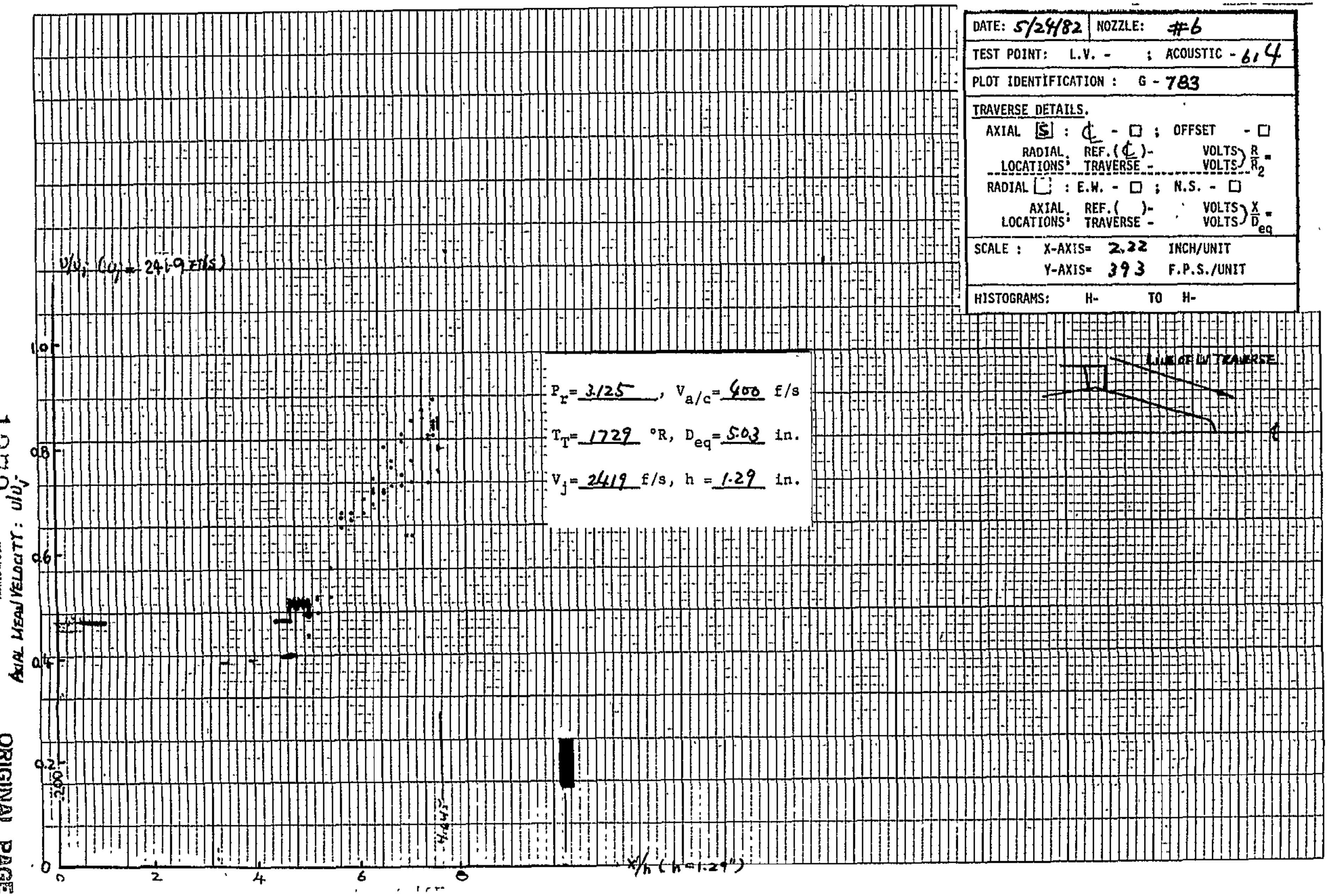


DATE: 5/24/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 61 4
PLOT IDENTIFICATION : G - 783
TRAVERSE DETAILS.
AXIAL [S] : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$=
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$=
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 393 F.P.S./UNIT
HISTOGRAMS: H- TO H-
P_r= 3.125, $V_{a/c}$= 400 f/s
T_T= 1729 °R, D_{eq}= 5.03 in.
V_j= 2419 f/s, h = 1.29 in.
LINE OF LV TRAVERSE
℄
V/V_j (V_j = 2419 ft/s)
AXIAL MEAN VELOCITY : u/u_j
1.0
0.8
0.6
0.4
0.2
0
0
2
4
6
8
x/h (h=1.29")

1272

DATE: 5/24/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION: G - 784

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ *

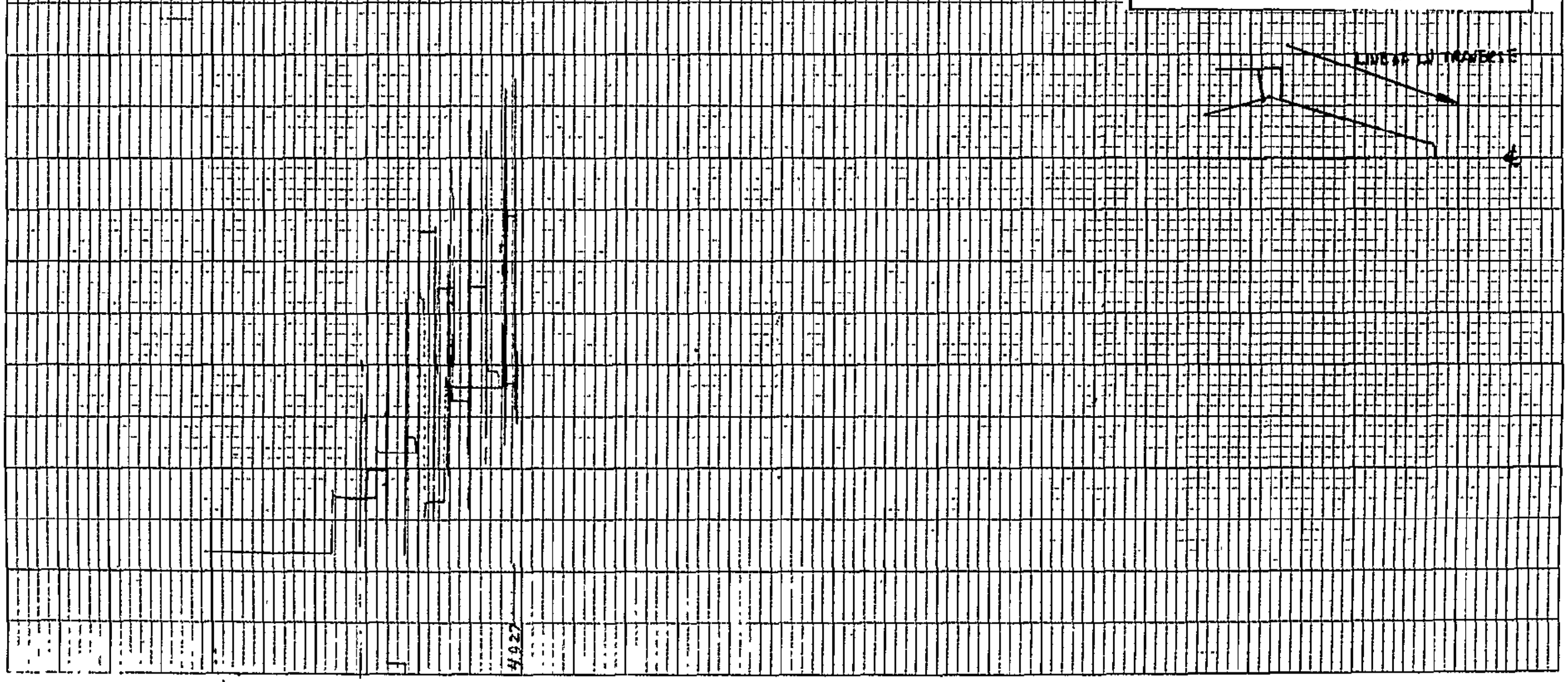
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ *

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 393 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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1273

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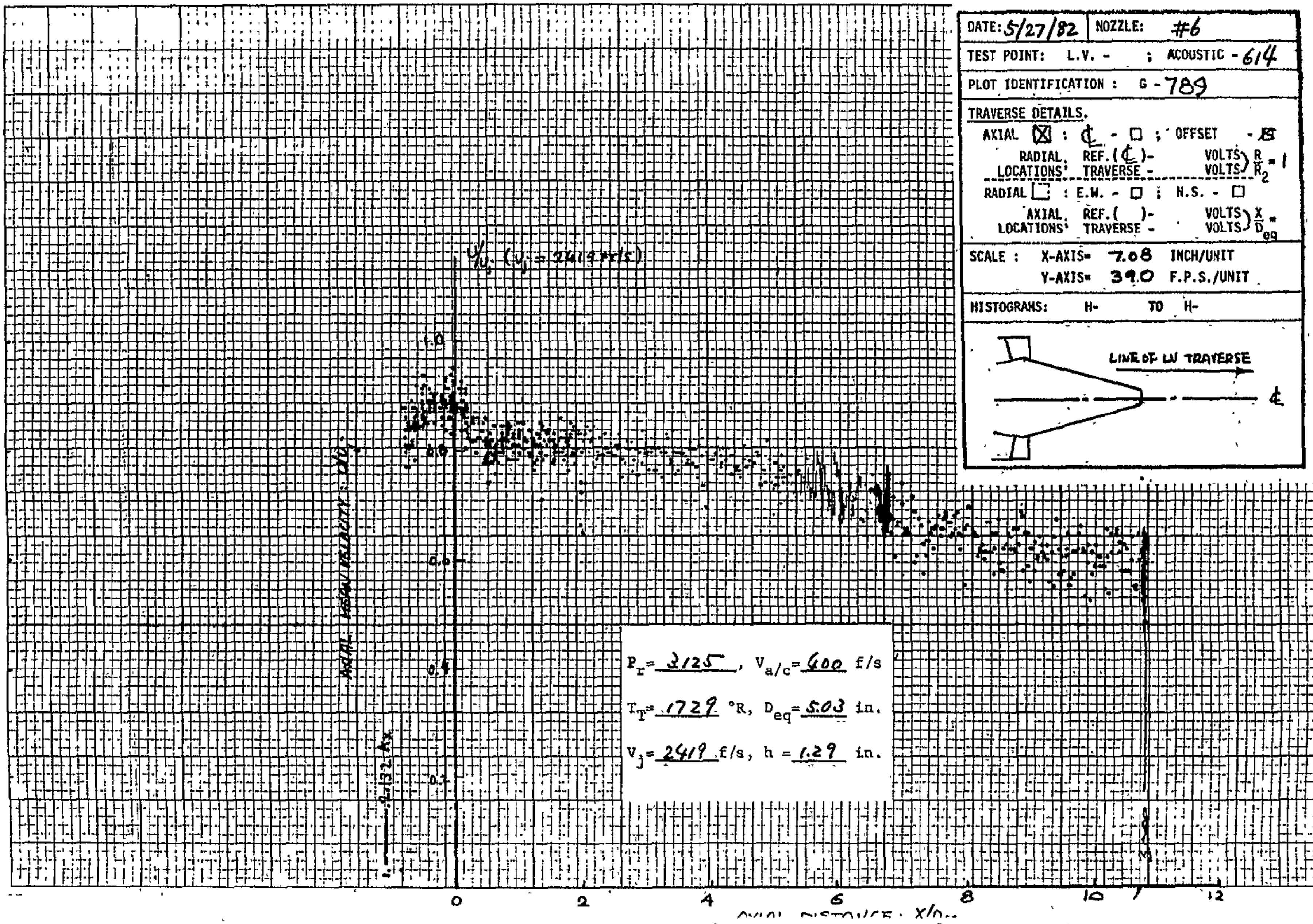
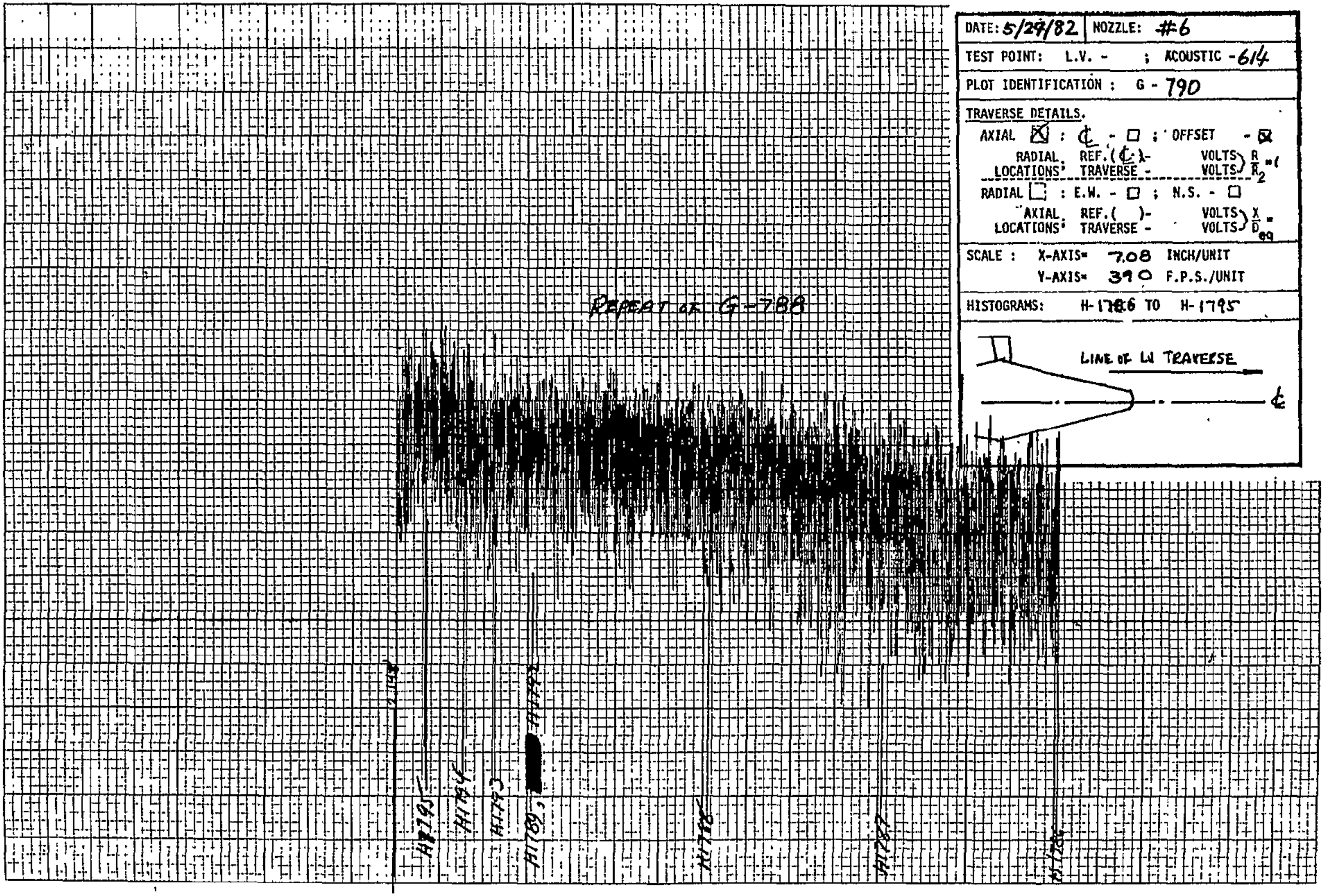
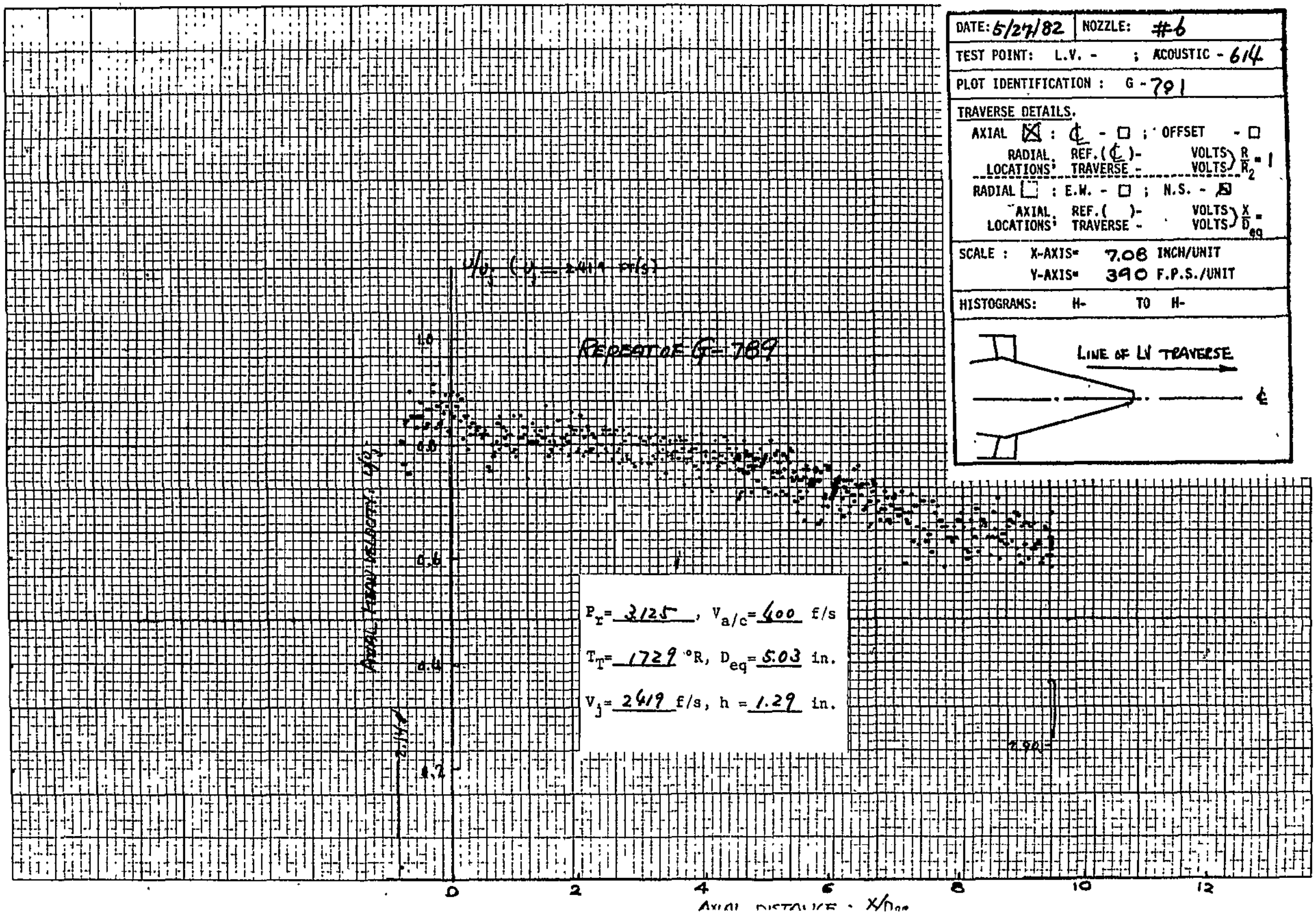

DATE: 5/27/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614
PLOT IDENTIFICATION : G - 789
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒
RADIAL LOCATIONS, REF. (℄)- TRAVERSE - VOLTS VOLTS R/R2 = 1
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS, REF. ( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 39.0 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
U/Uj (Vj = 2419 FT/S)
AXIAL MEAN VELOCITY, U/Uj
1.0
0.8
0.6
0.4
0.2
Pr = 3.125, Va/c = 400 f/s
TT = 1729 °R, Deq = 5.03 in.
Vj = 2419 f/s, h = 1.29 in.
0
2
4
6
8
10
12
AXIAL DISTANCE, X/Deq

1279


DATE: 5/29/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC -614
PLOT IDENTIFICATION : G - 790
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒
RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =(
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 390 F.P.S./UNIT
HISTOGRAMS: H-1786 TO H-1795
LINE OF LV TRAVERSE
℄
REPEAT OF G-788



DATE: 5/27/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G - 791

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ = 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☒

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄

P_r = 3.125 , $V_{a/c}$ = 600 f/s

T_T = 1729 °R, D_{eq} = 5.03 in.

V_j = 2419 f/s, h = 1.29 in.

1280

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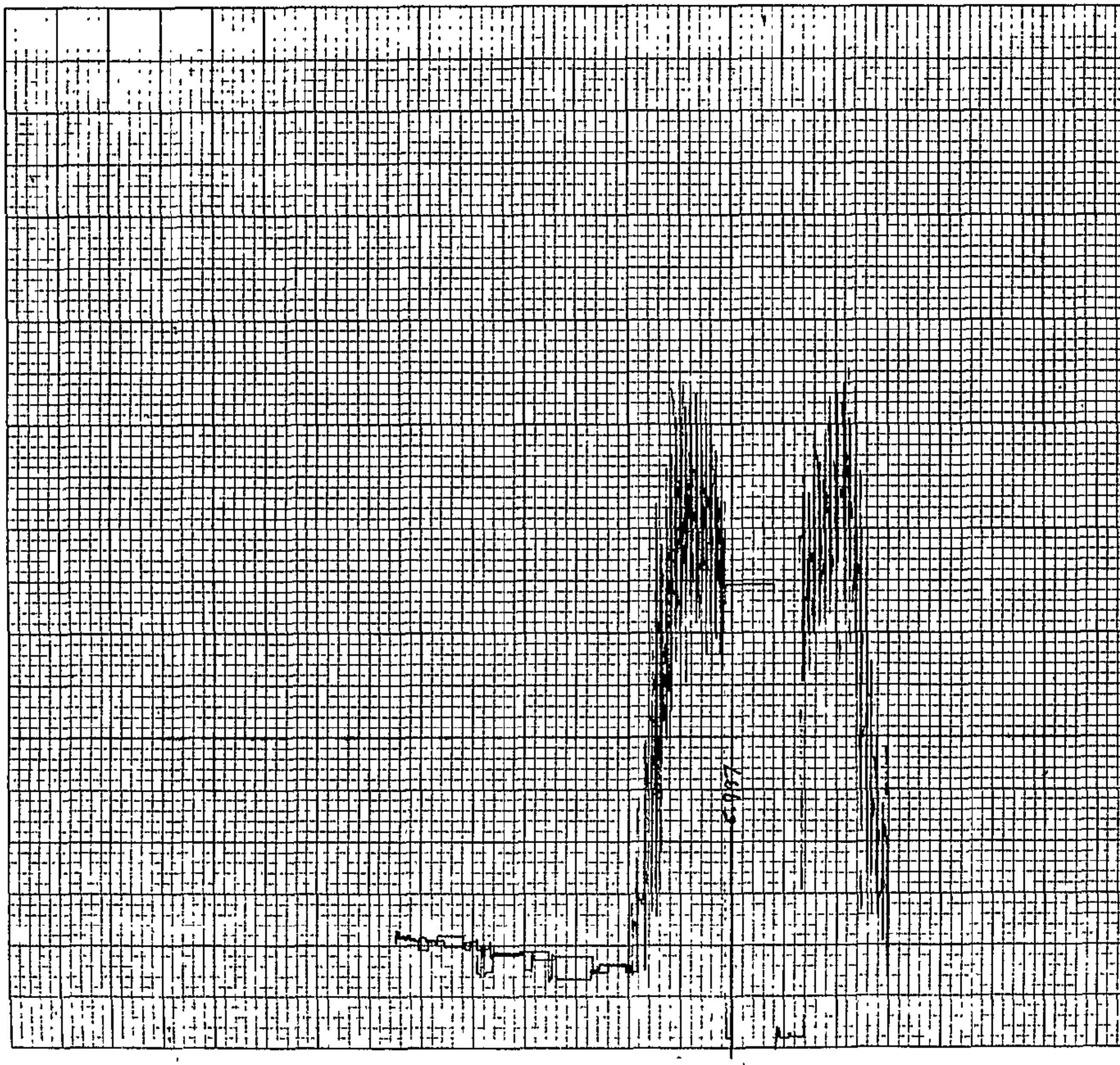


DATE: 5/27/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614	
PLOT IDENTIFICATION : G - 792	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

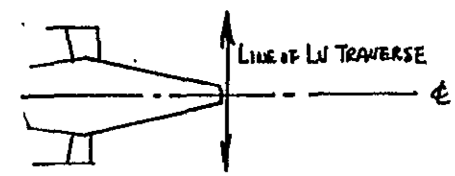
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 5/27/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614	
PLOT IDENTIFICATION : G - 793	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 390 F.P.S./UNIT

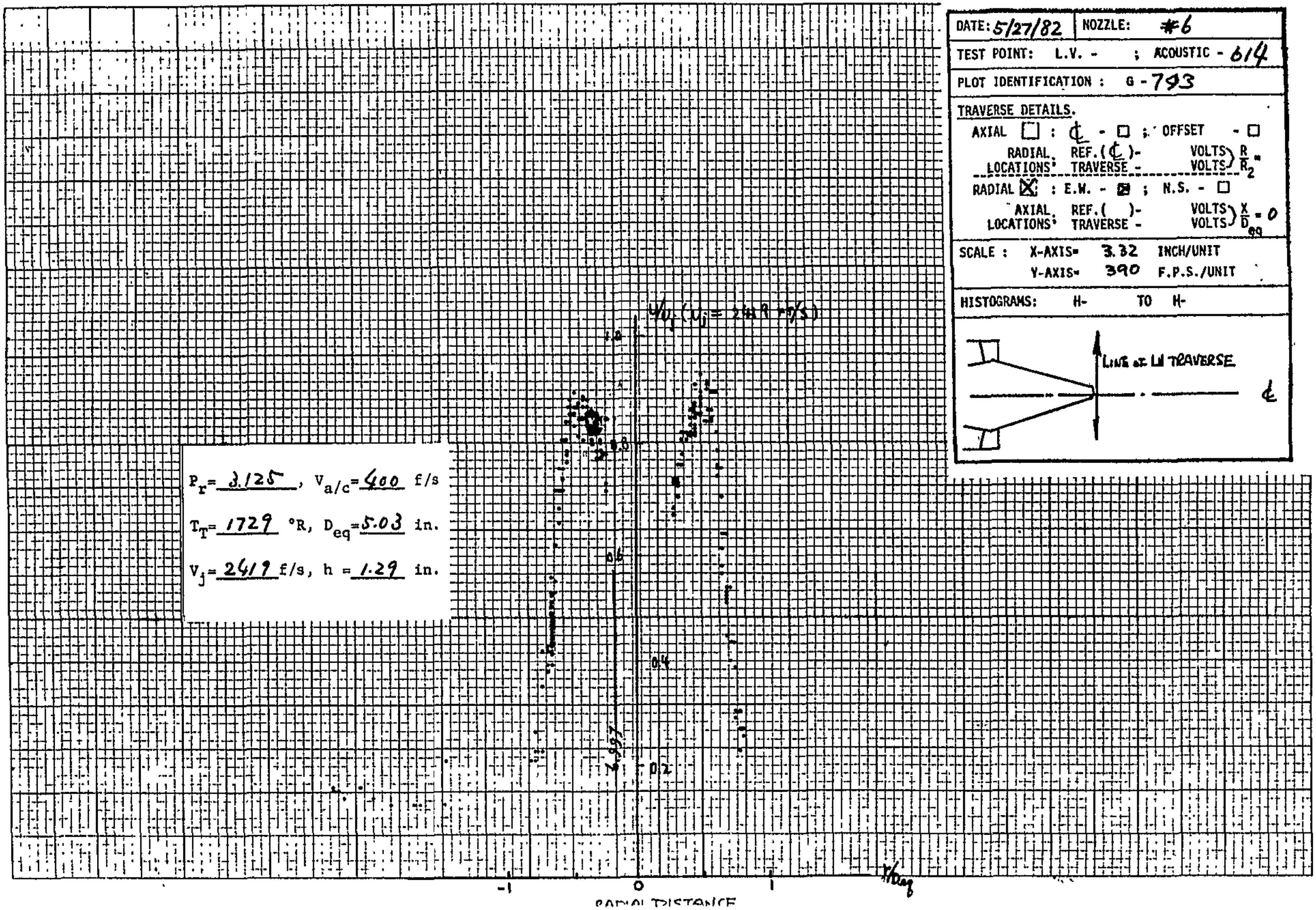
HISTOGRAMS: H- TO H-

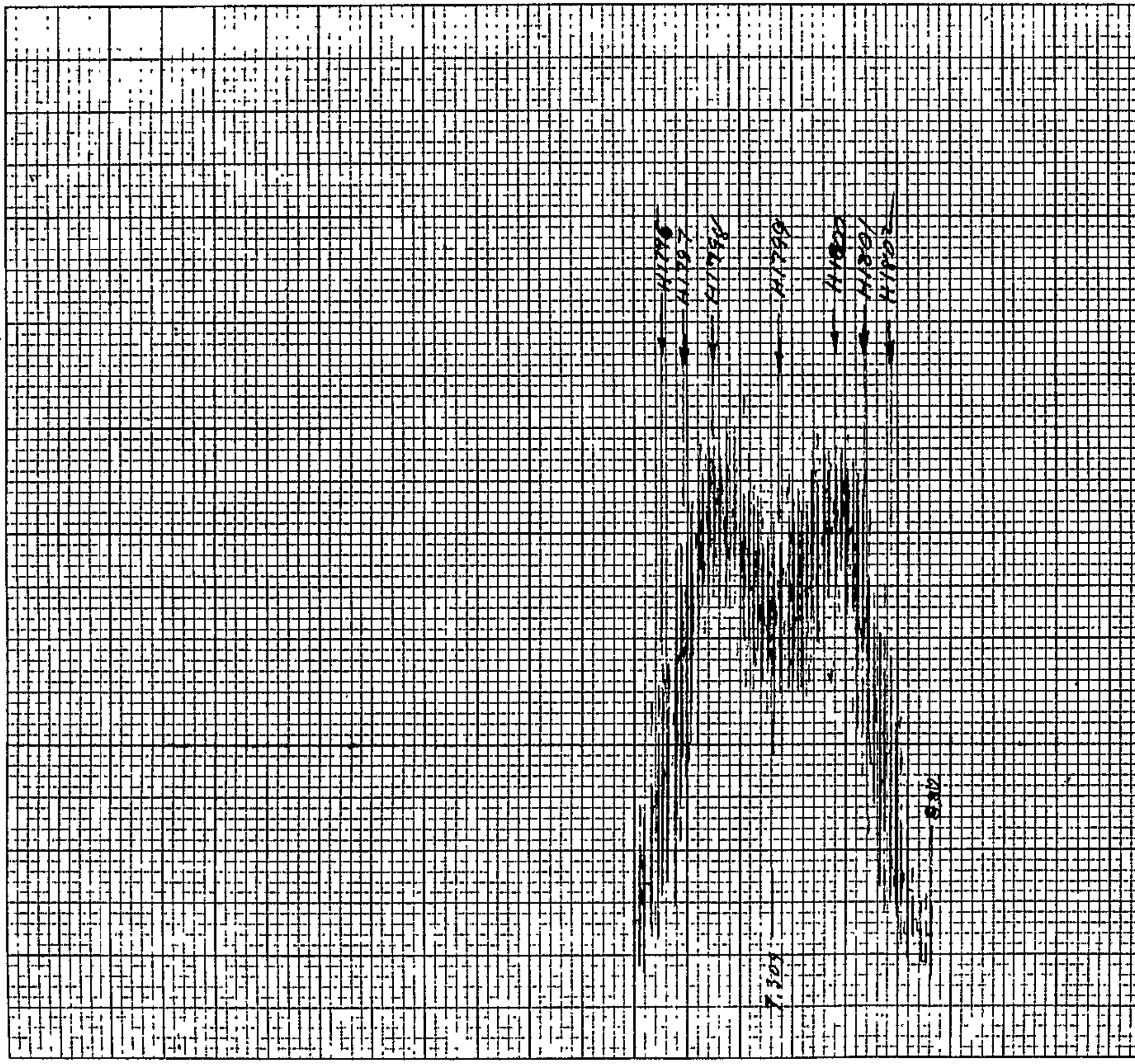
LINE OF LV TRAVERSE ℄

P_r = 3.125 , $V_{a/c}$ = 400 f/s

T_T = 1729 °R, D_{eq} = 5.03 in.

V_j = 2419 f/s, h = 1.29 in.





DATE: 5/27/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G - 794

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

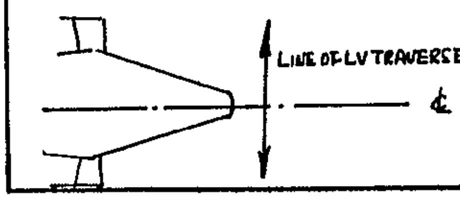
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = Z

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H-1796 TO H-1802



NO. XY 1101

1283

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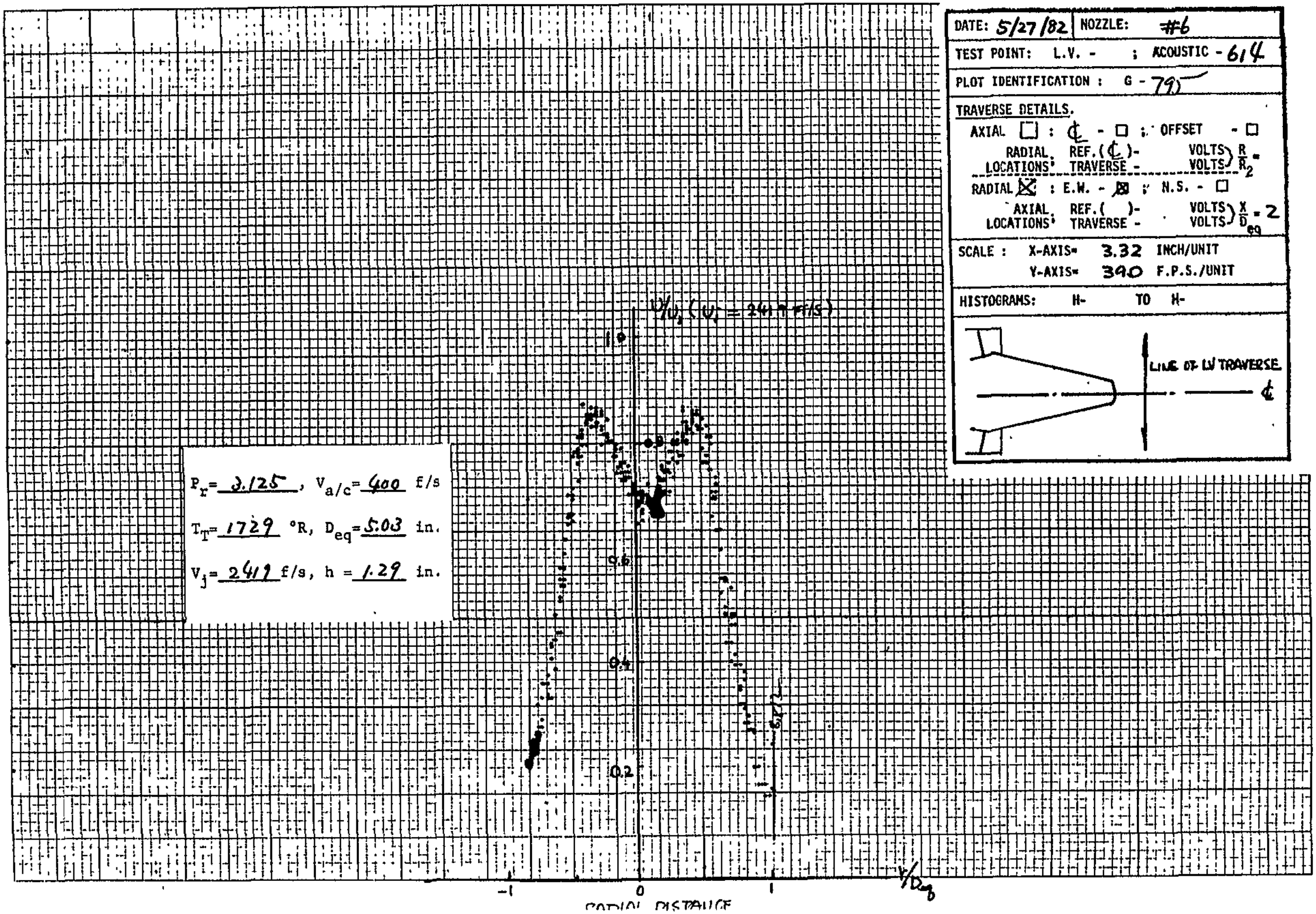

1284

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DATE: 5/27/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G - 796

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

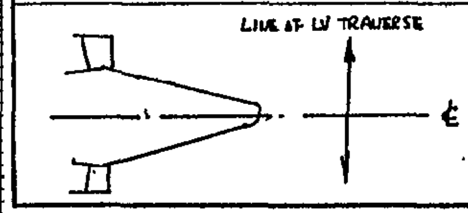
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS } $\frac{R}{R_2}$ =

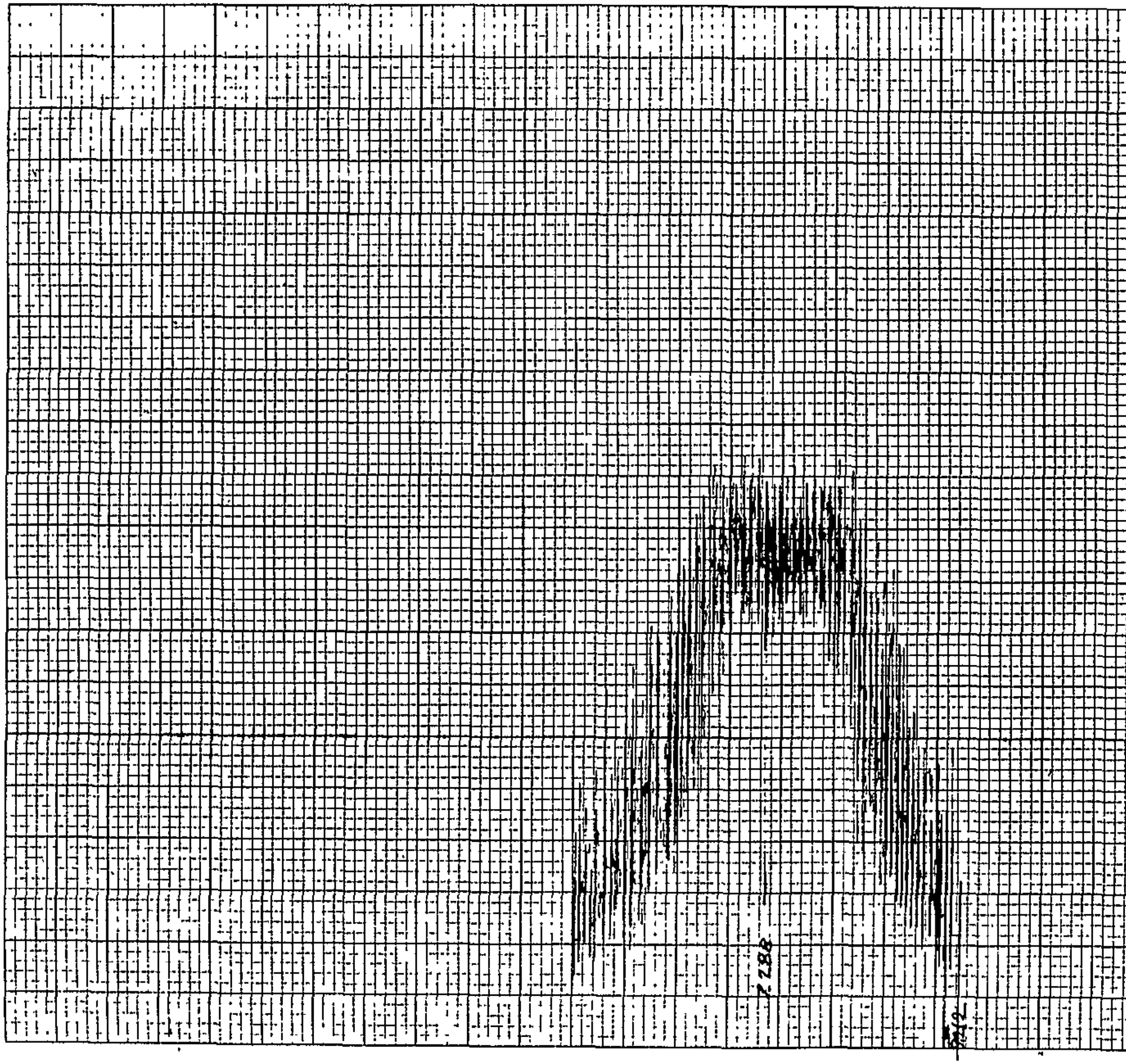
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

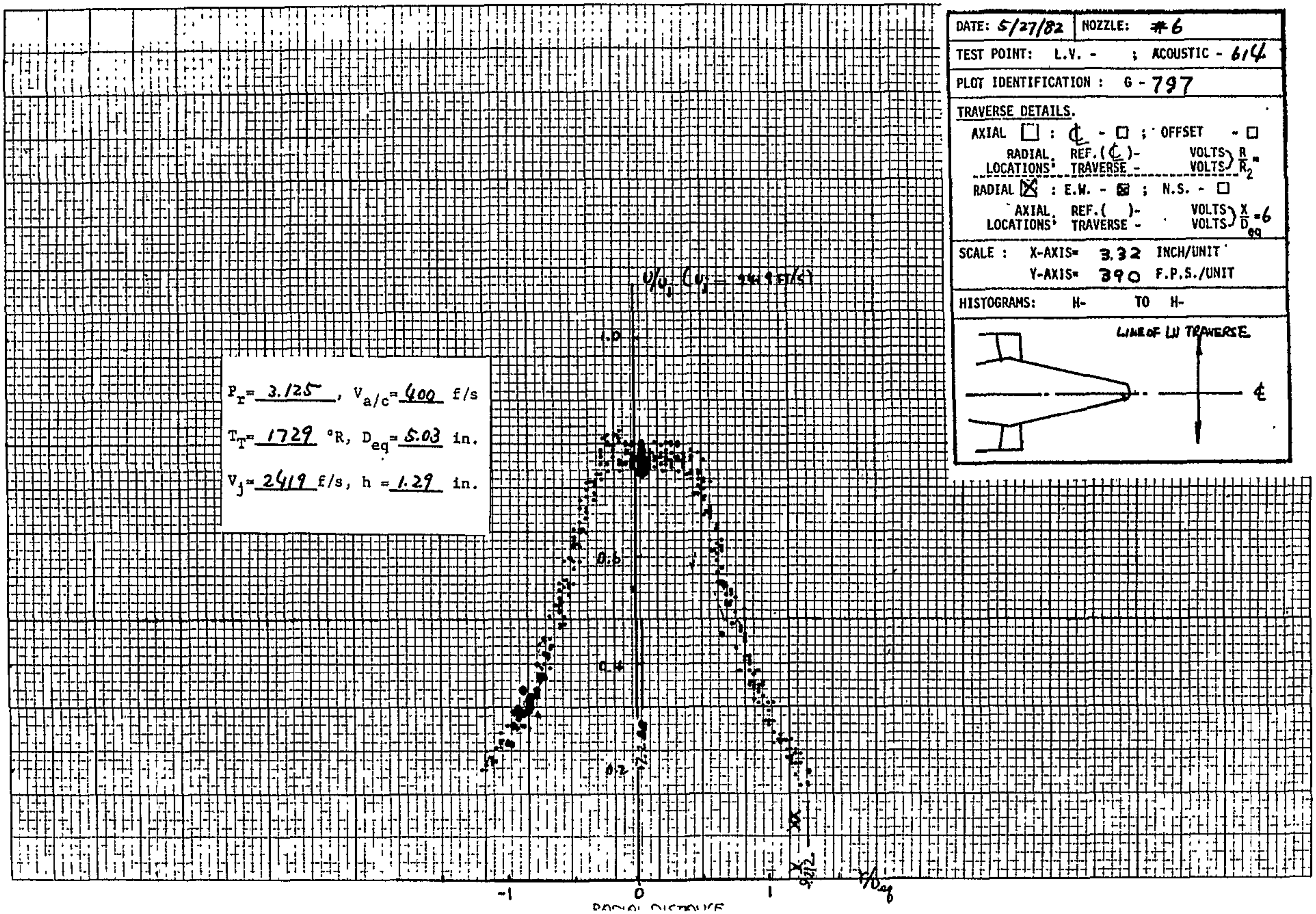
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS } $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H- TO H-







DATE: 5/27/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614
PLOT IDENTIFICATION : G - 797
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS } R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS } X/Deq = 6
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 390 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
P_r = 3.125, $V_{a/c}$ = 400 f/s
T_T = 1729 °R, D_{eq} = 5.03 in.
V_j = 2419 f/s, h = 1.29 in.
U/Uj (Vj = 2419 FT/S)
1.0
0.6
0.4
0.2
-1
0
1
r/Deq
RADIAL DISTANCE

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No. XY 1101

1257

DATE: 5/27/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614	
PLOT IDENTIFICATION : G - 798	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

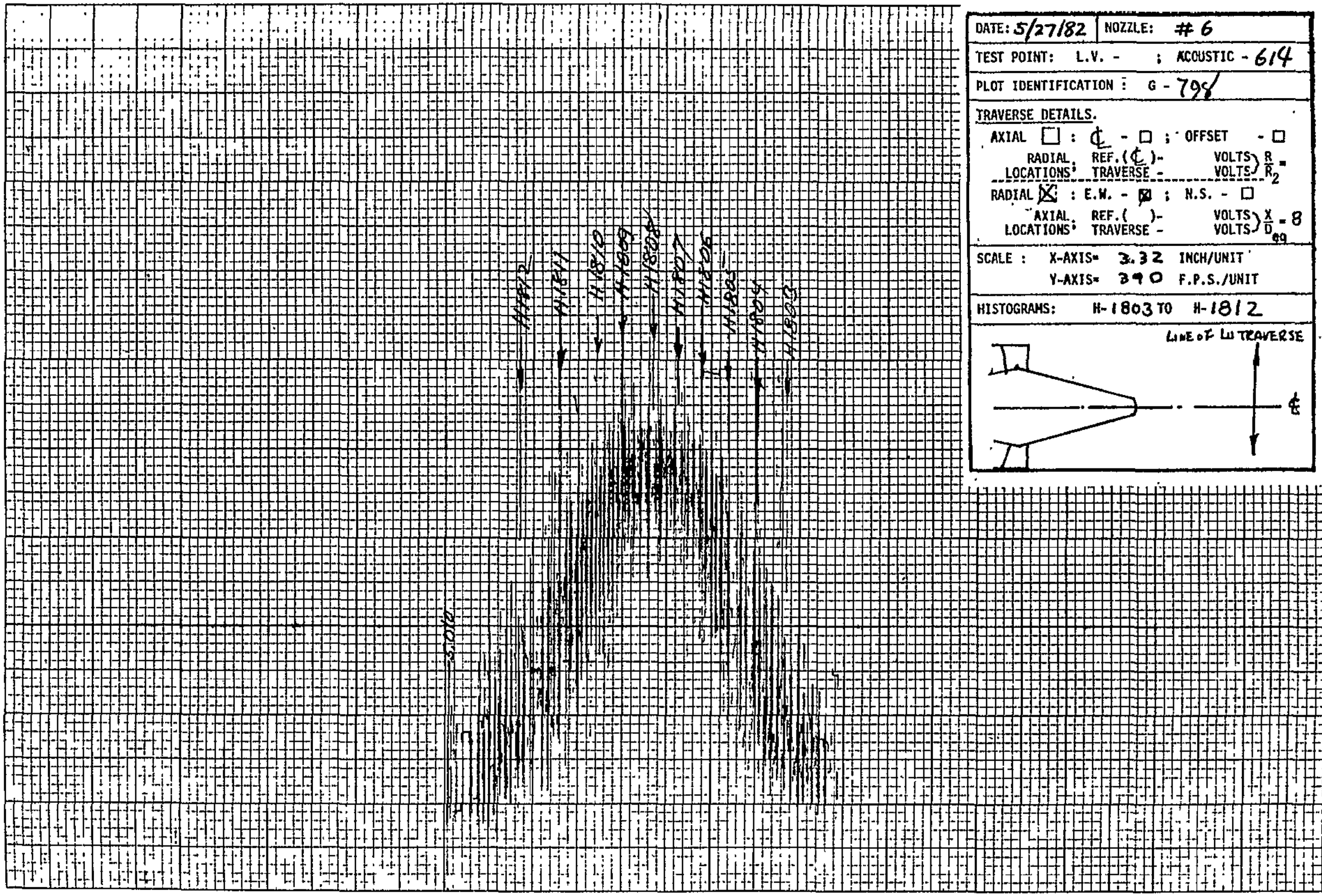
RADIAL LOCATIONS, REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS, REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{69}}$ = 8

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H-1803 TO H-1812



DATE: 5/27/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614	
PLOT IDENTIFICATION : G - 799	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 390 F.P.S./UNIT

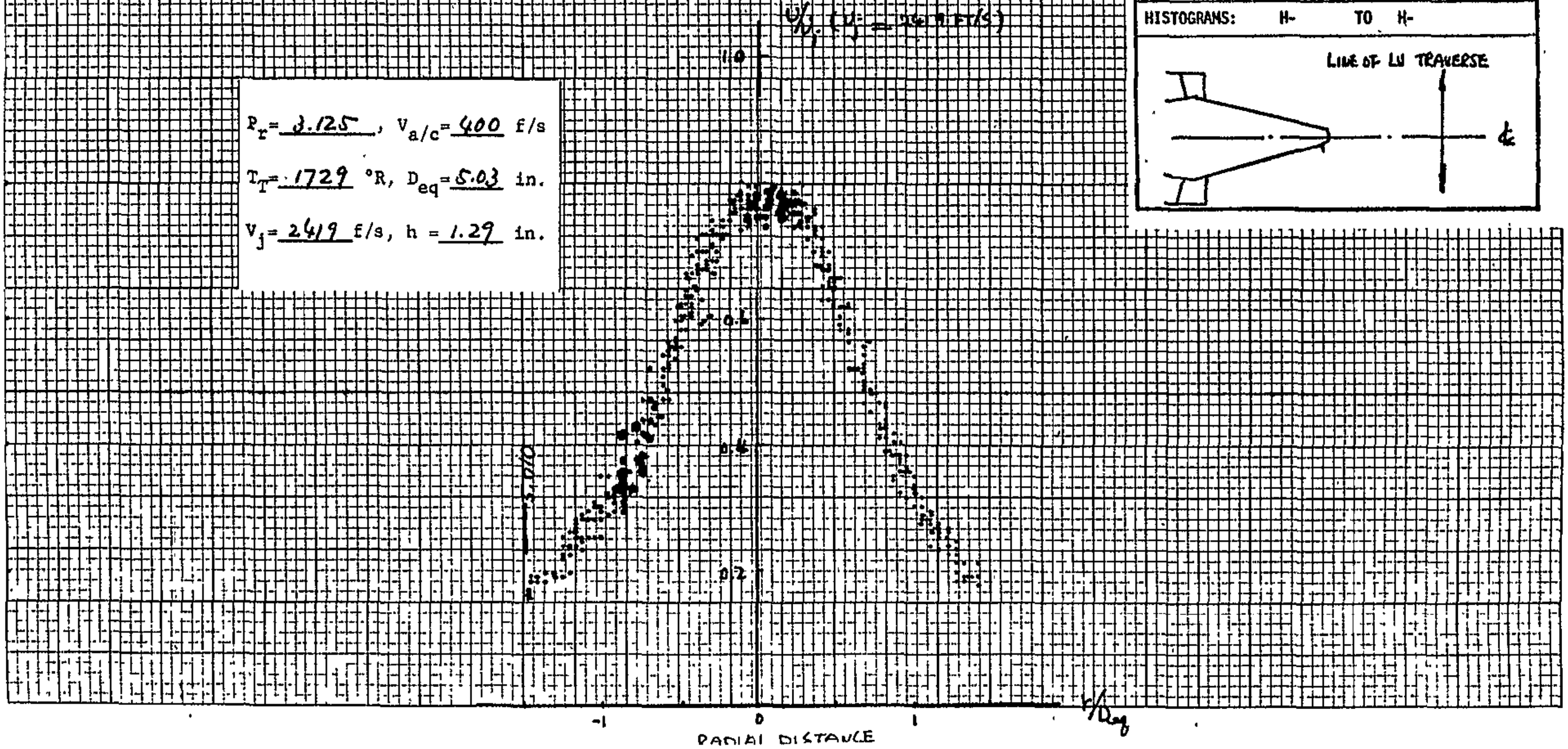
HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

P_r = 3.125 , $V_{a/c}$ = 400 f/s

T_T = 1729 °R, D_{eq} = 5.03 in.

V_j = 2419 f/s, h = 1.29 in.



DATE: 5/27/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G - 800

TRAVERSE DETAILS.

AXIAL ☐ : ₵ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (₵) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 12

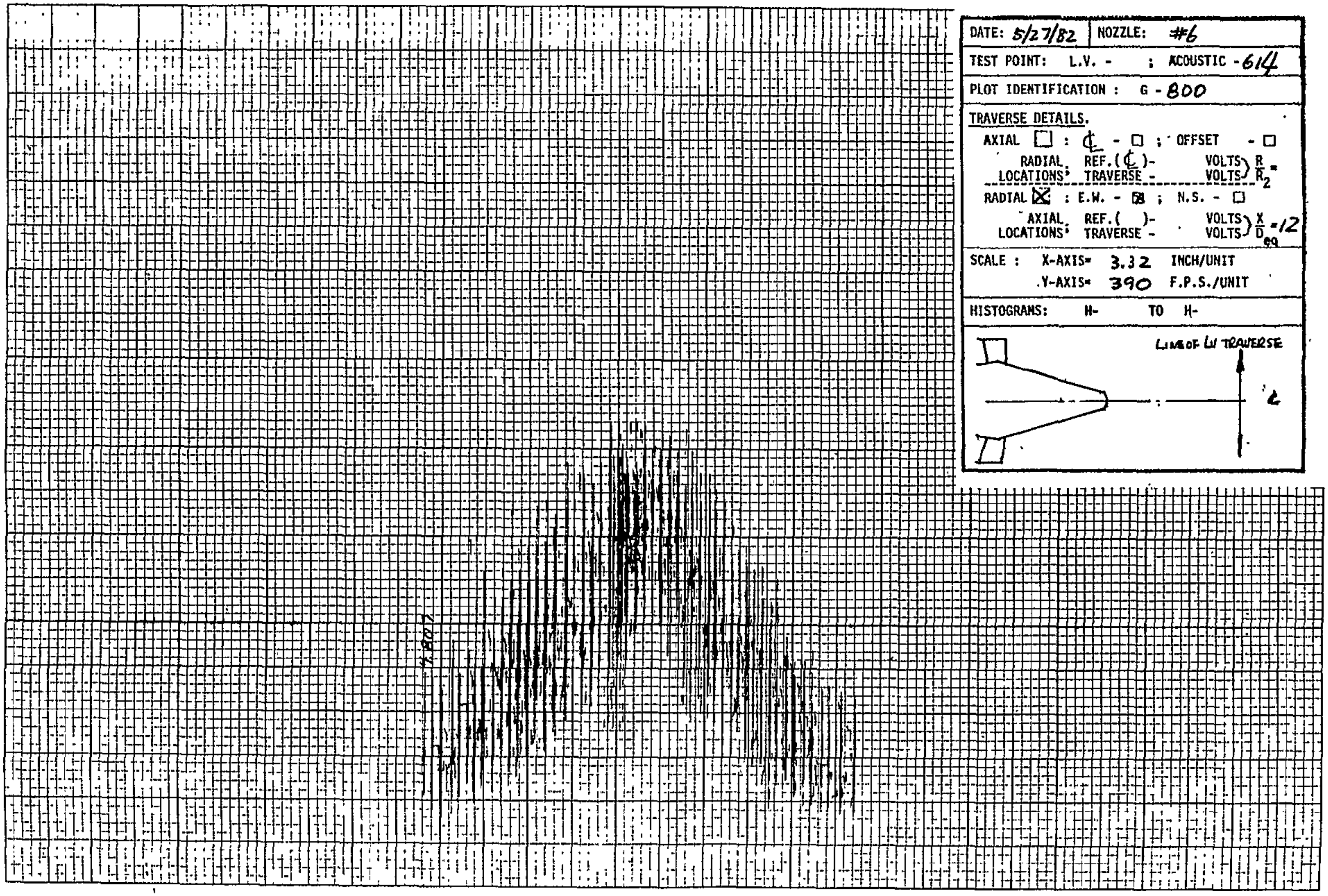
SCALE : X-AXIS = 3.32 INCH/UNIT

Y-AXIS = 390 F.P.S./UNIT

HISTOGRAMS: H- TO H-

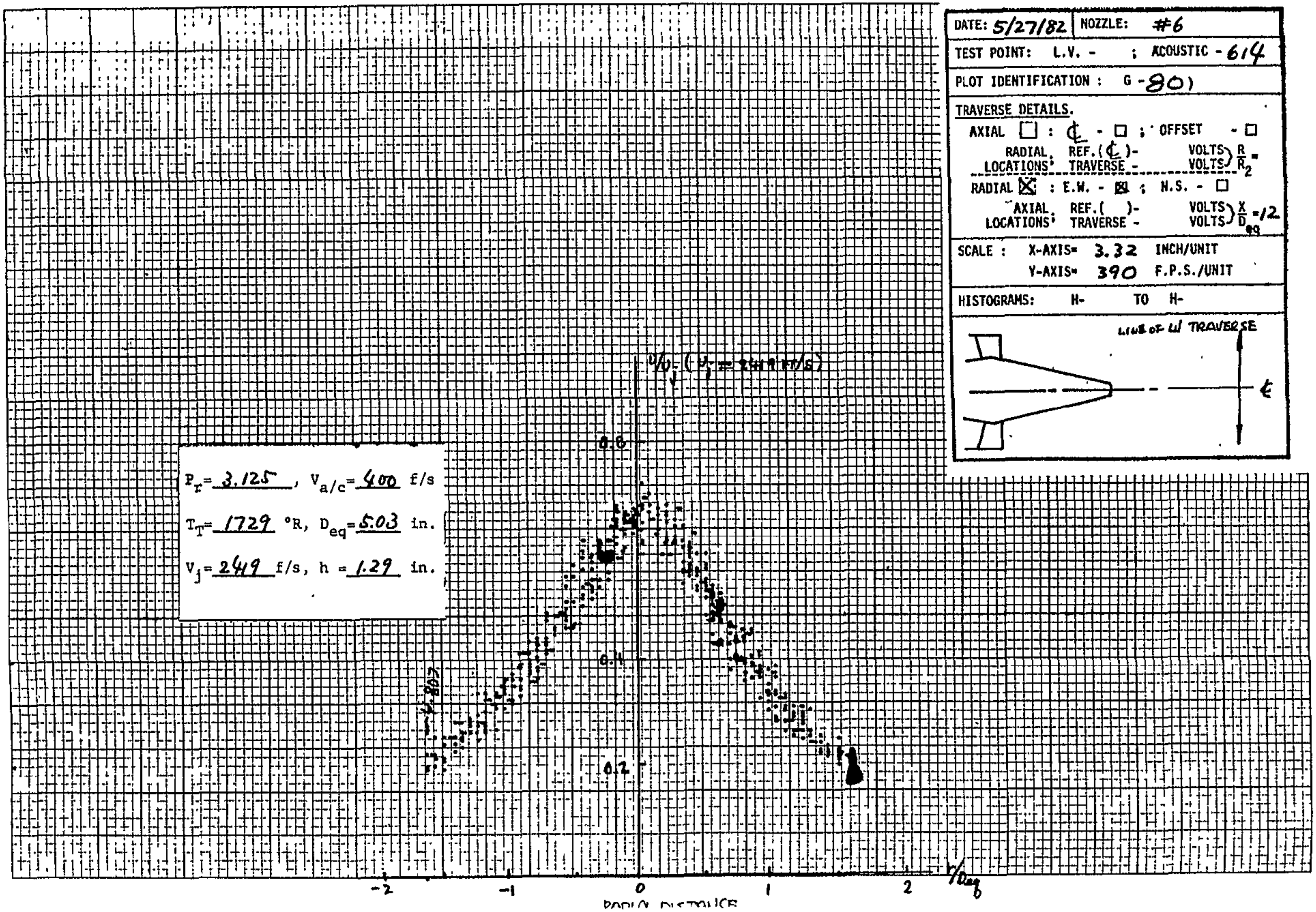
LINE OF LV TRAVERSE

₵



NO. XY 1101

1284


DATE: 5/27/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614
PLOT IDENTIFICATION : G - 801
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq = 12
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 390 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
P_r = 3.125 , $V_{a/c}$ = 400 f/s
T_T = 1729 °R, D_{eq} = 5.03 in.
V_j = 2419 f/s, h = 1.29 in.
U/U_j (V_j = 2419 FT/S)
0.6
0.4
0.2
-2
-1
0
1
2
r/D_{eq}
RADIAL DISTANCE

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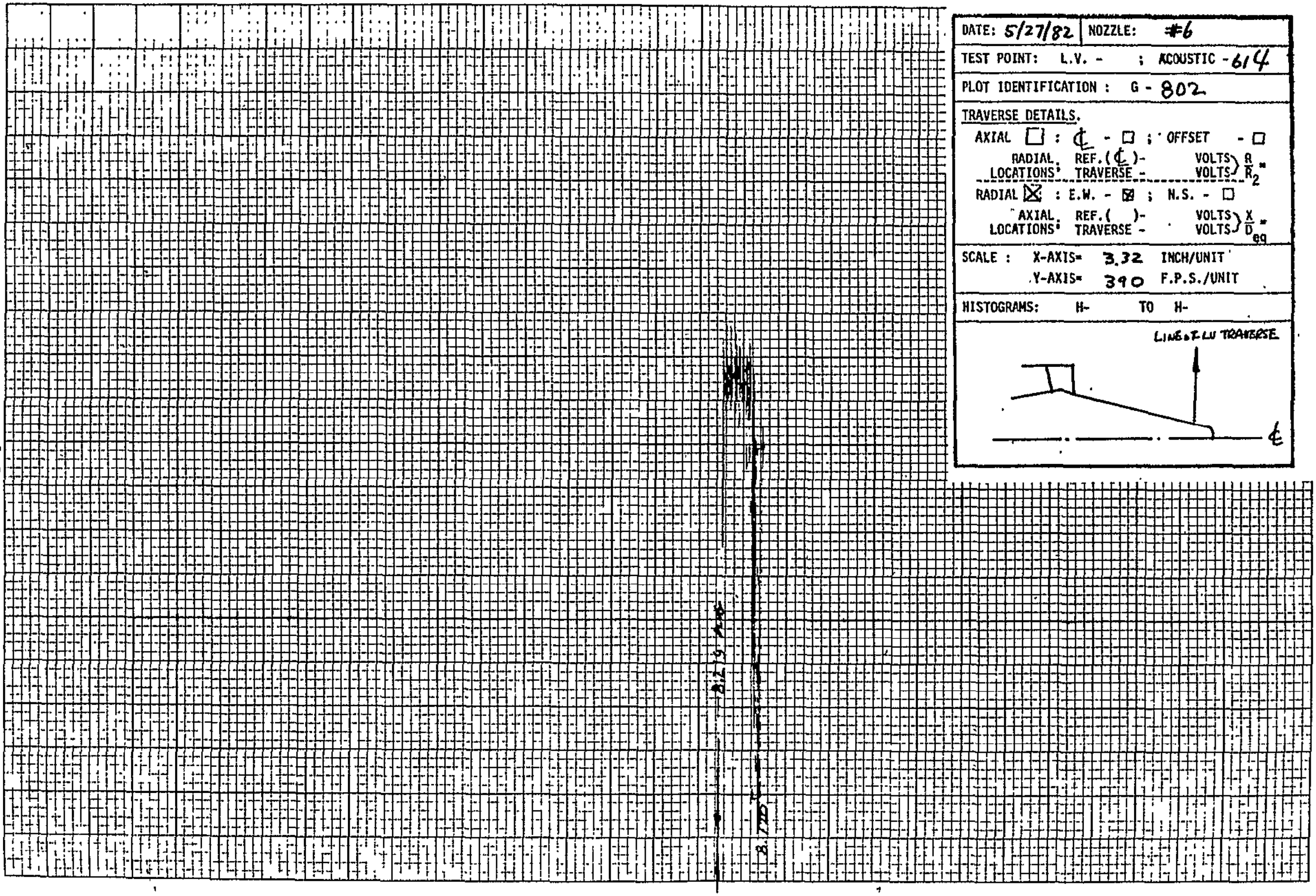
No. XY 1101

1291



DATE: 5/27/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G - 802

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)-TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )-TRAVERSE - VOLTS/VOLTS X/D_{eq} =

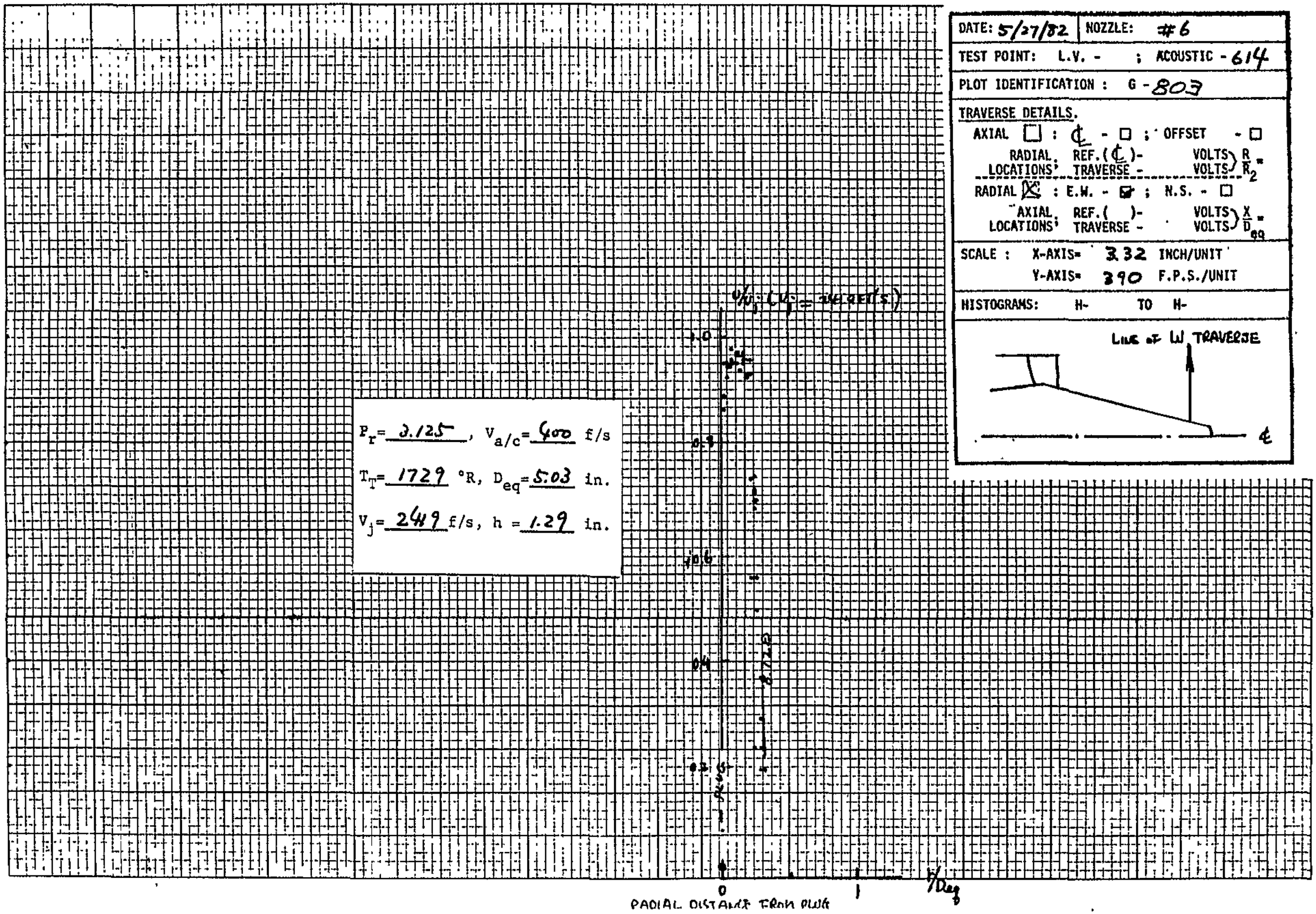
SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE of LV TRAVERSE

℄



NO. XY 1011

1292

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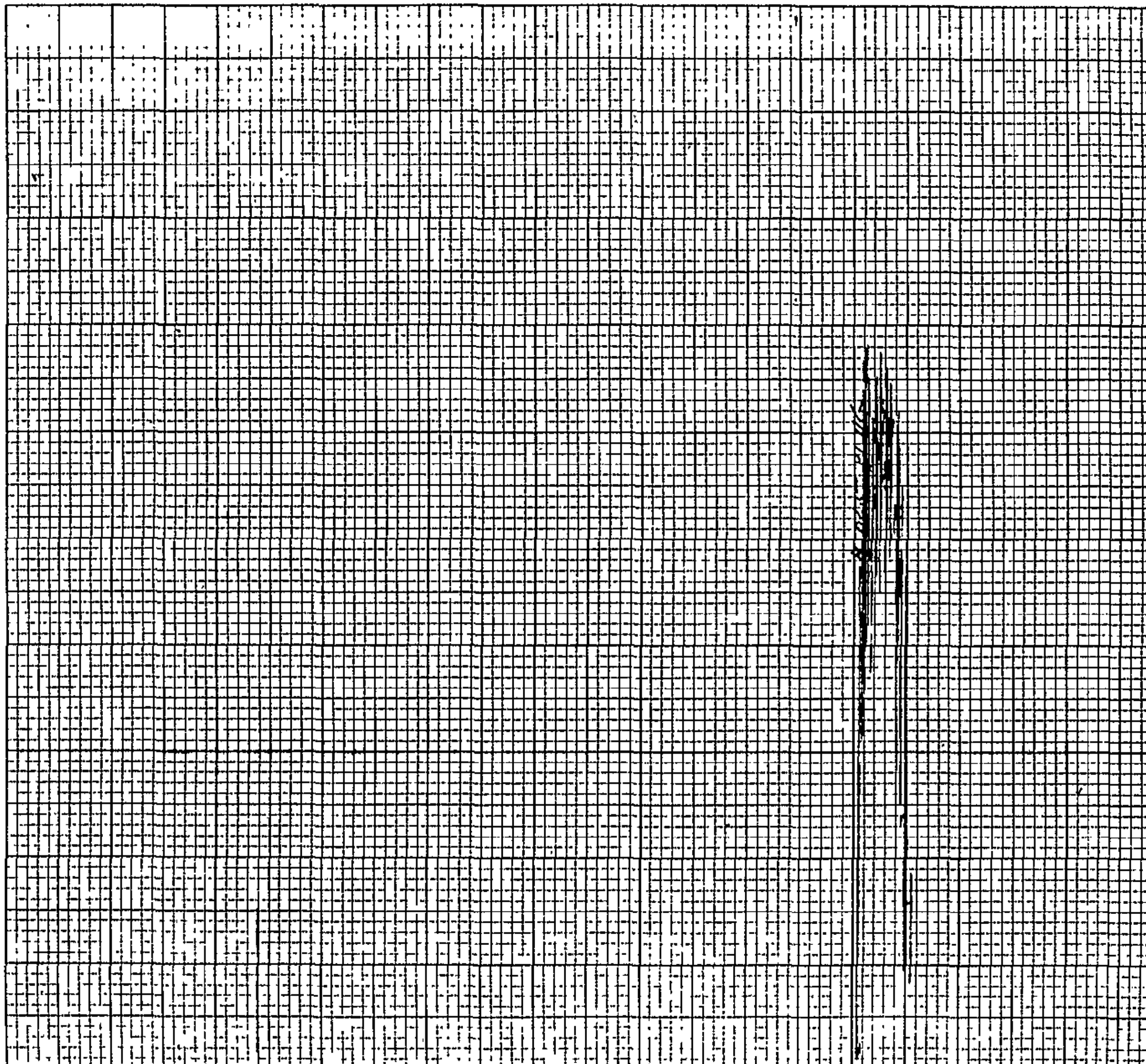


DATE: 5/27/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614	
PLOT IDENTIFICATION : G - 804	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

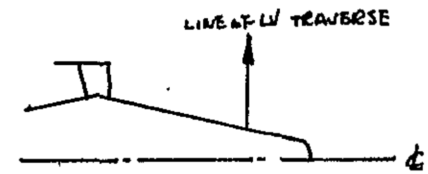
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

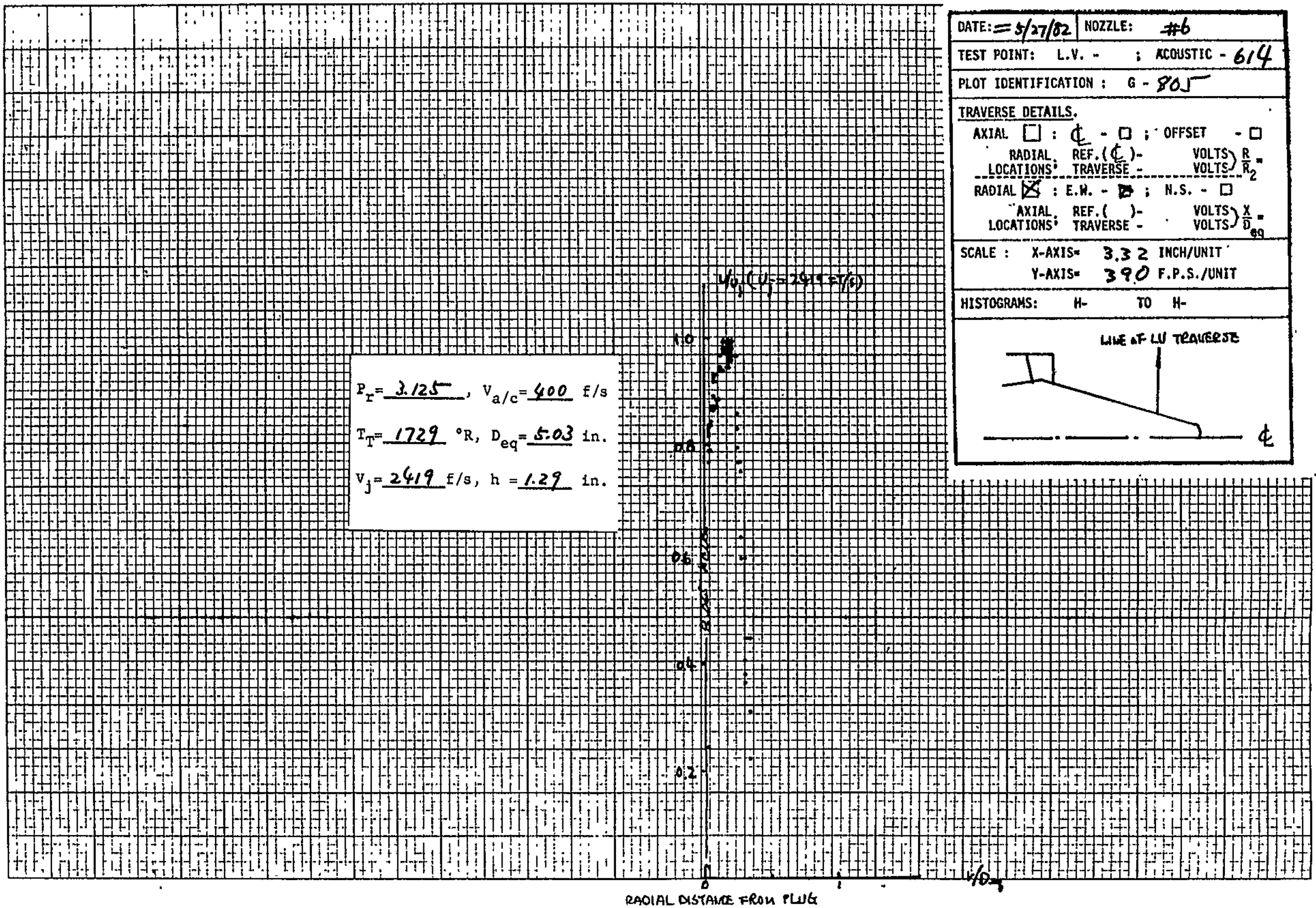
SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H- TO H-



1293



NO. XY 1101

1294

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BUFFALO, NEW YORK

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DATE: 5/27/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 614

PLOT IDENTIFICATION : G - 806

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

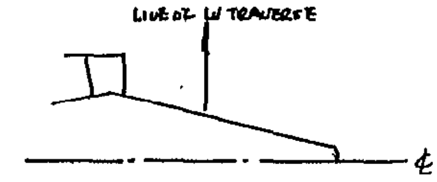
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

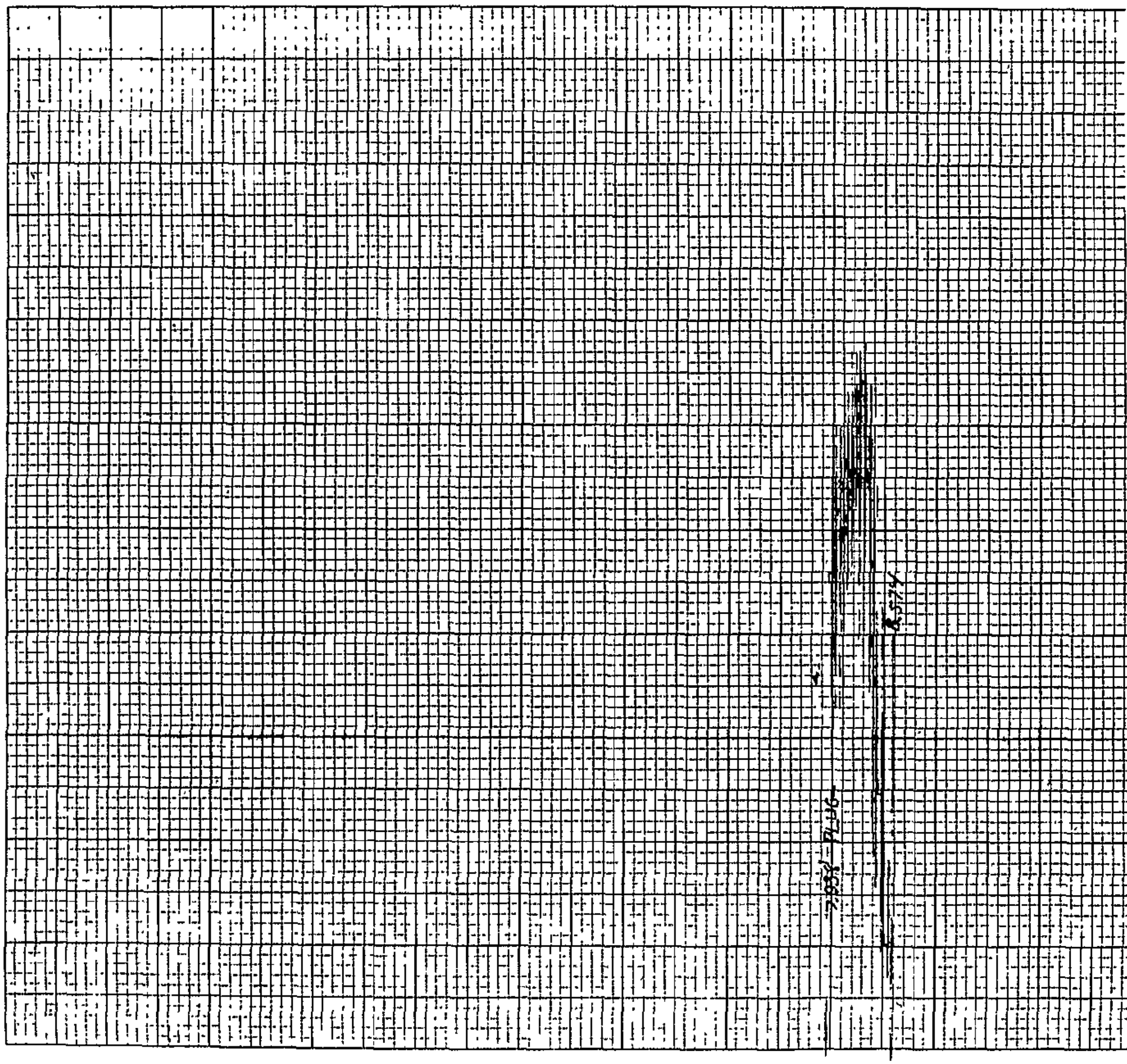
AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H- TO H-





NO. XY 1101

1296

DATE: 5/27/82	NOZZLE: #6		
TEST POINT: L.V. - ; ACOUSTIC - 614			
PLOT IDENTIFICATION : G - 807			

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF. (℄) - TRAVERSE - ; VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF. ( ) - TRAVERSE - ; VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

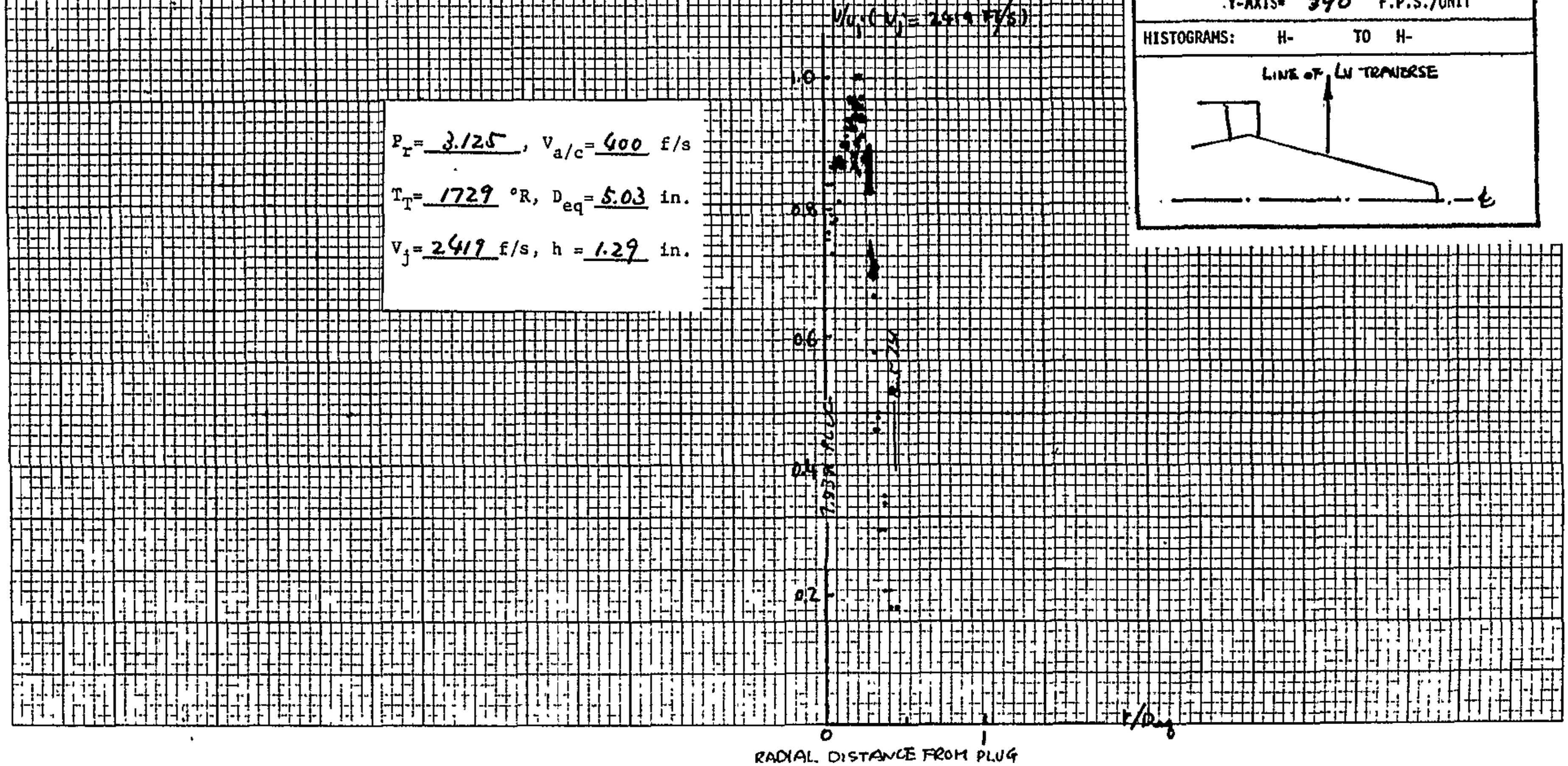
Y-AXIS= 390 F.P.S./UNIT

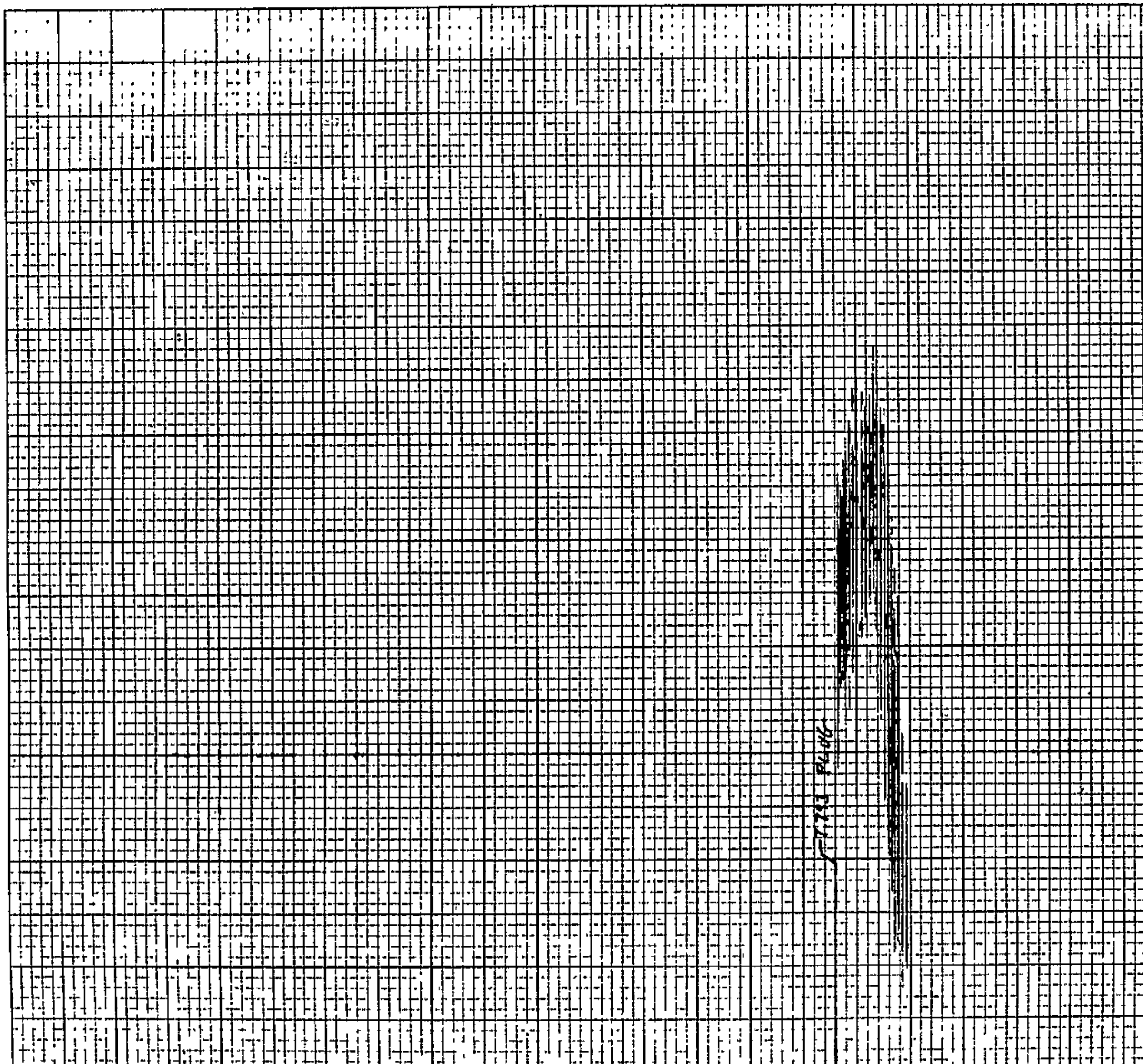
HISTOGRAMS: H- TO H-

P_r = 3.125, $V_{a/c}$ = 400 f/s

T_T = 1729 °R, D_{eq} = 5.03 in.

V_j = 2419 f/s, h = 1.29 in.





DATE: 5/27/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 614	
PLOT IDENTIFICATION : G - 808	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

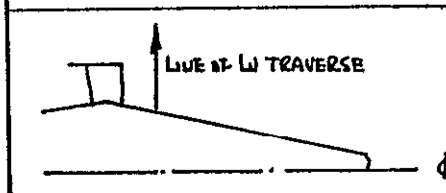
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 390 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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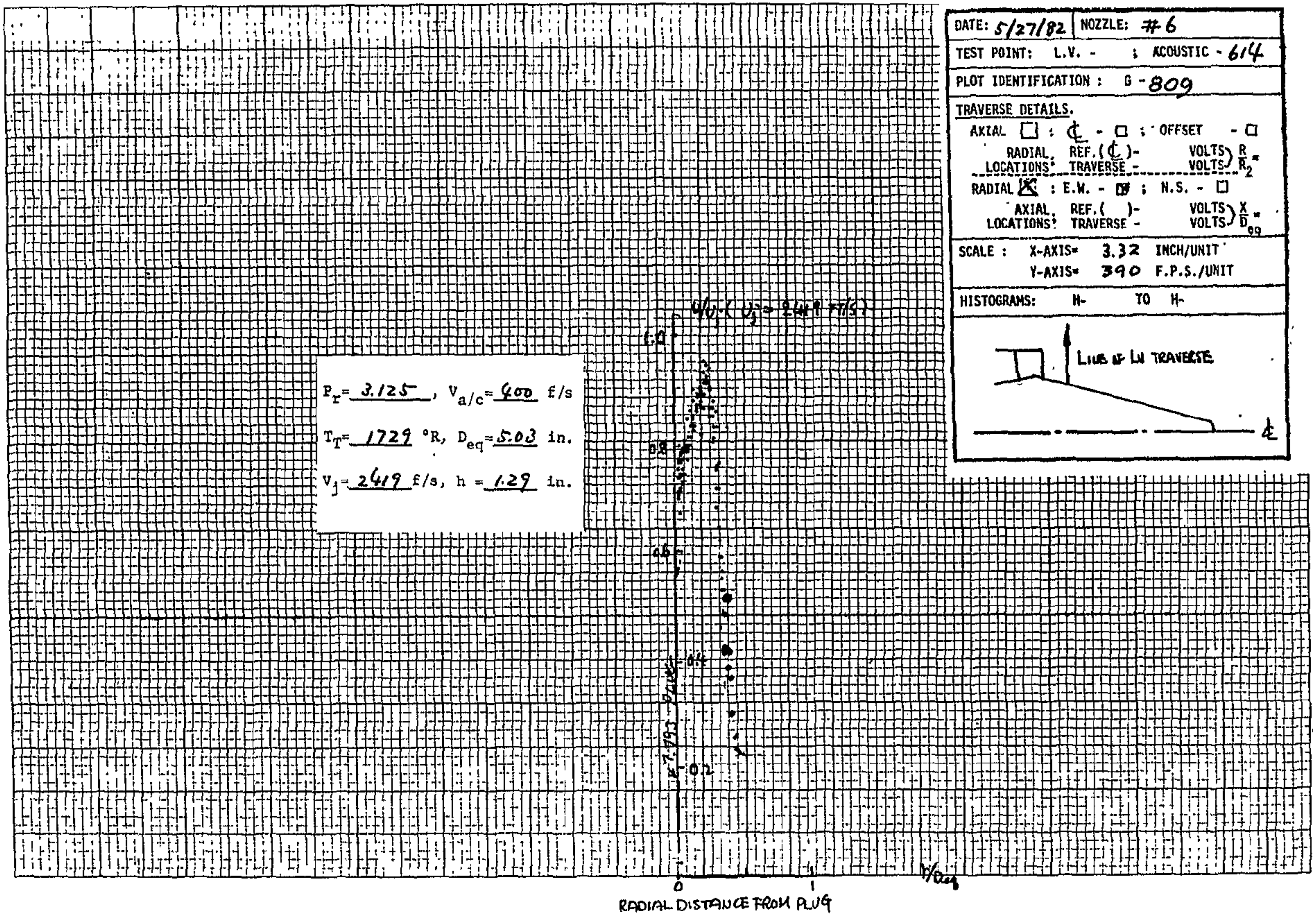

No. XY 1101

1298

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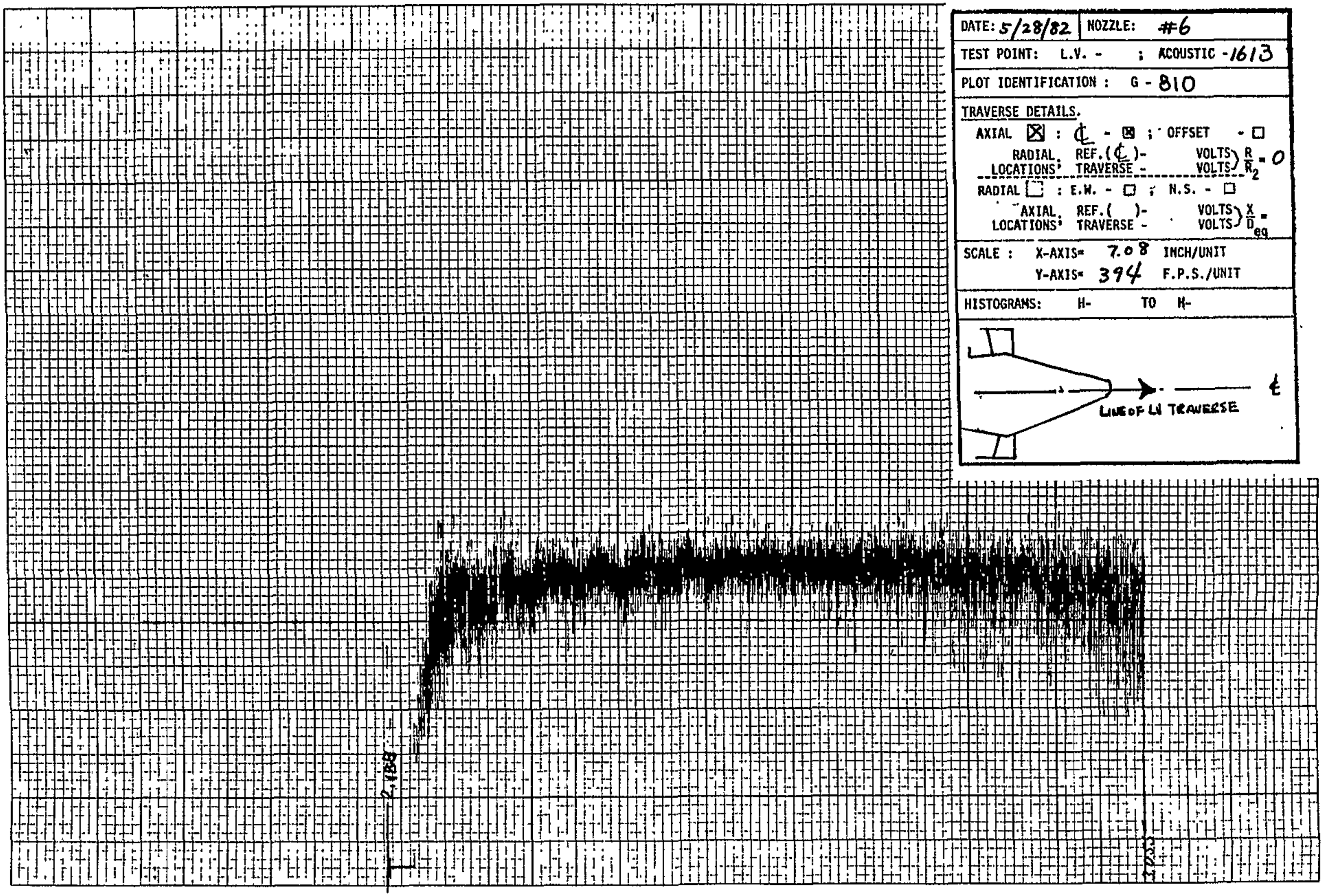
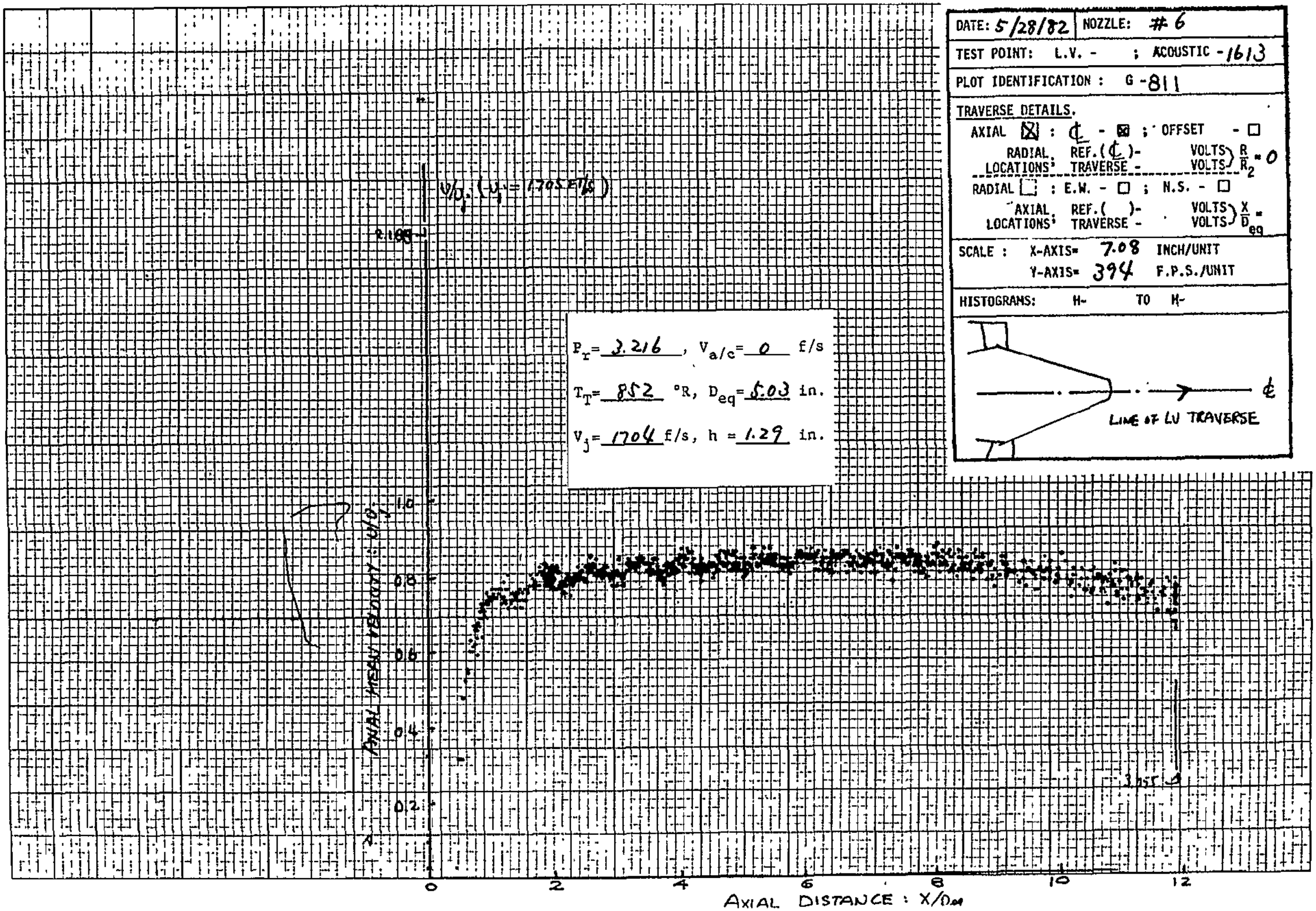


DATE: 5/28/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC -1613
PLOT IDENTIFICATION : G - 810
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS R/R2 = 0
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄

1300



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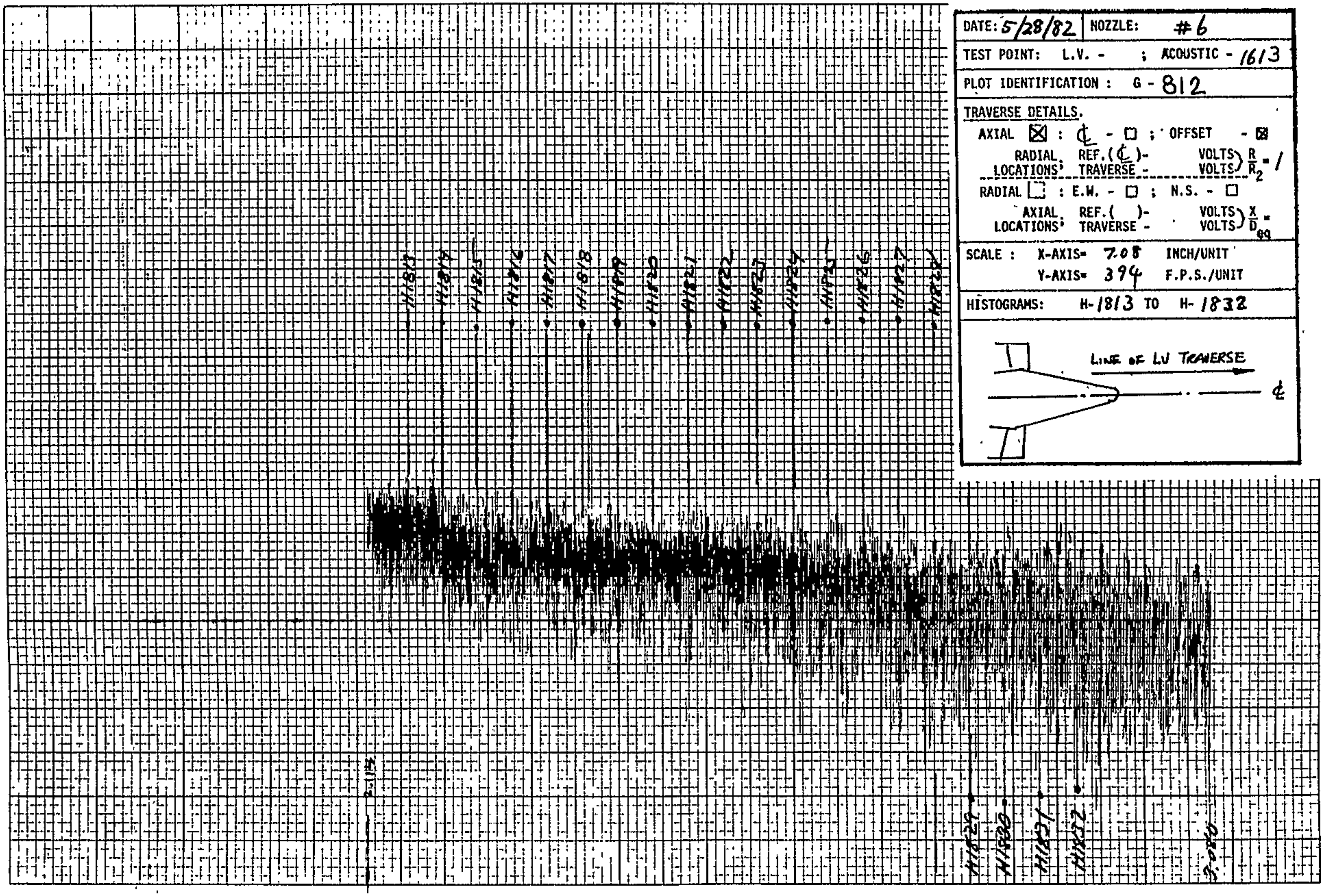
1301



DATE: 5/28/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 812

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF. (℄)-TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )-TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

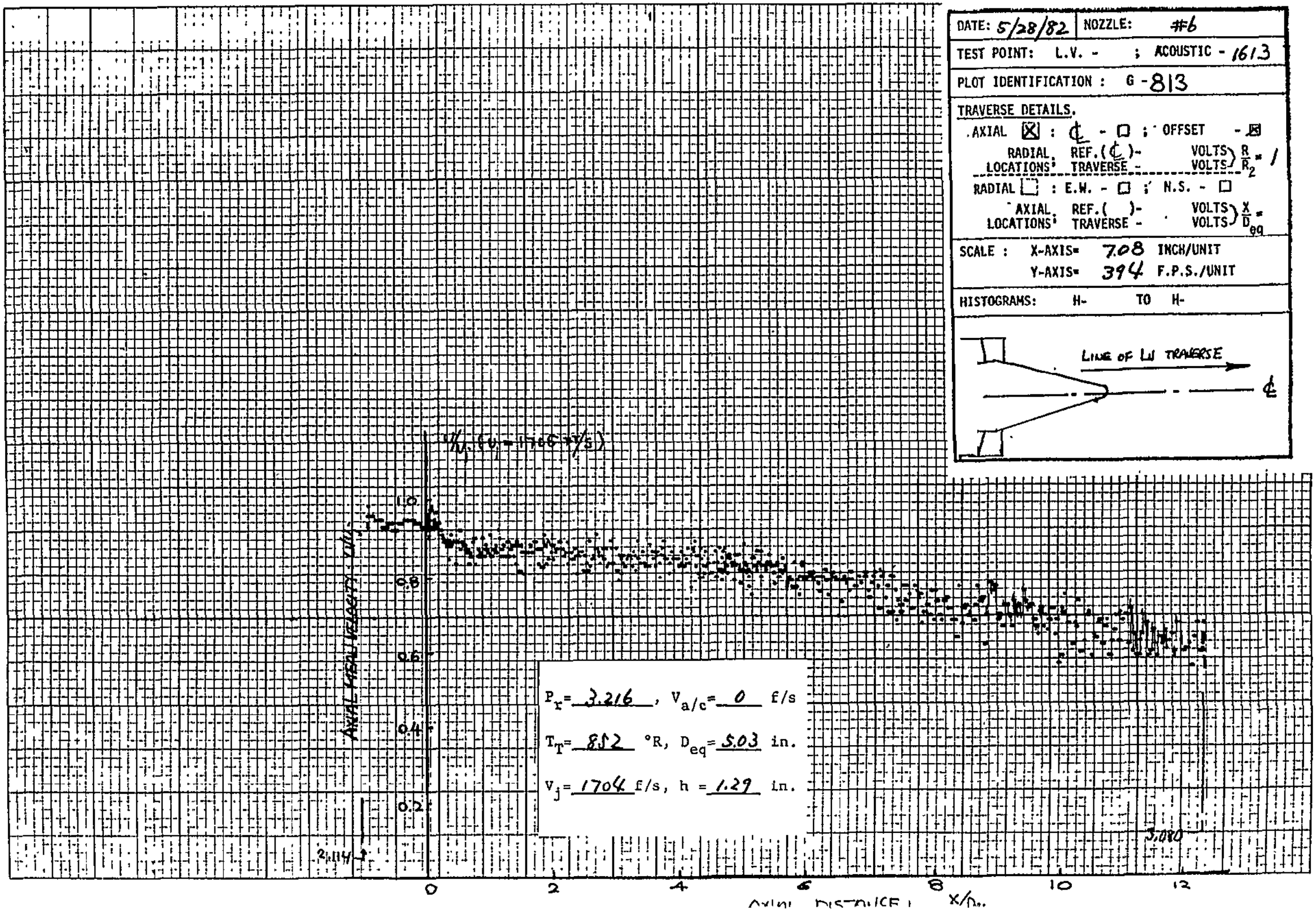
HISTOGRAMS: H-1813 TO H-1832

LINE OF LV TRAVERSE
℄

NO. XY 1101

1302

1303



DATE: 5/28/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 813

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS R/R_2 = 1

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS = 7.08 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

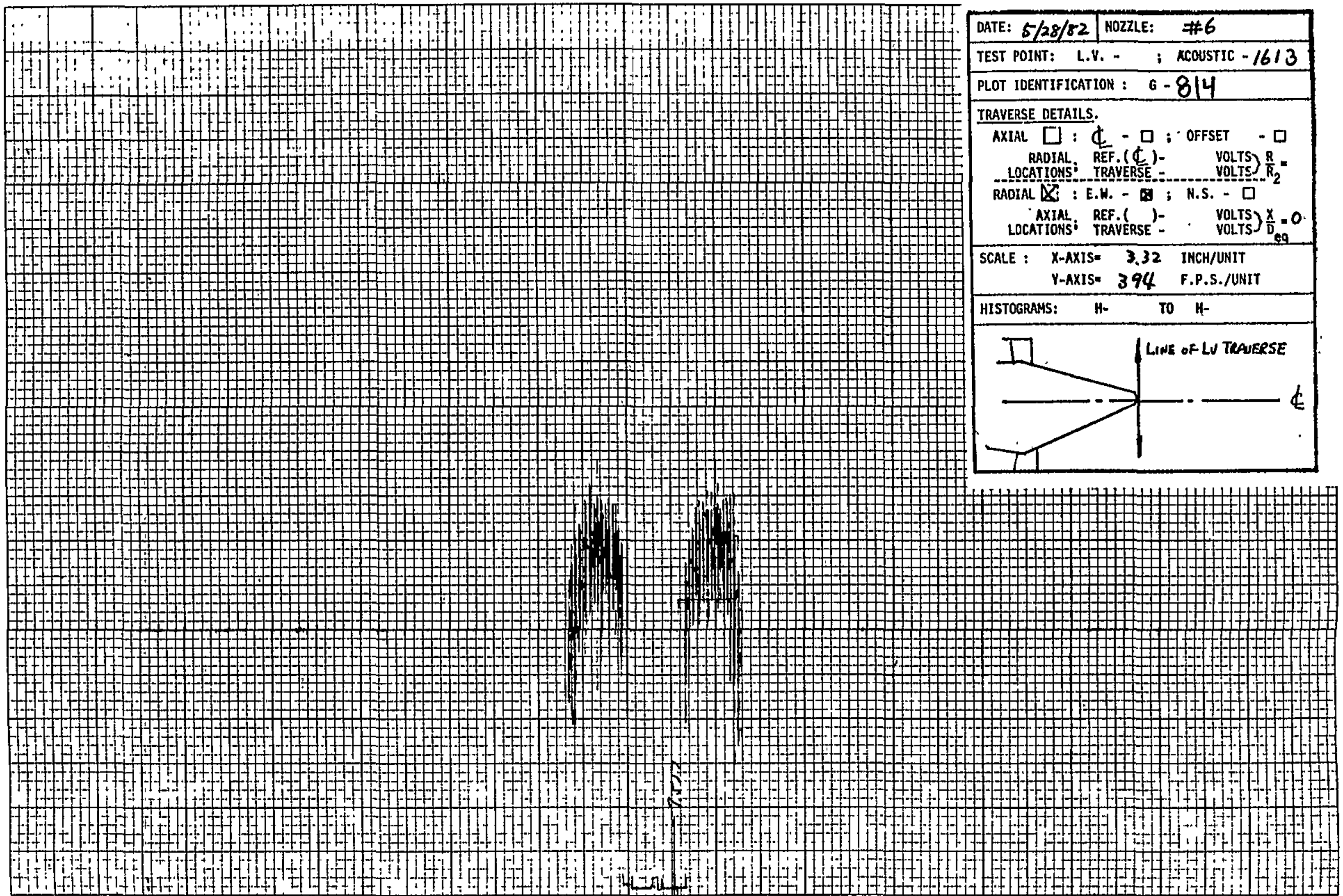
HISTOGRAMS: H- TO H-

P_r = 3.216 , $V_{a/c}$ = 0 f/s

T_T = 852 °R, D_{eq} = 5.03 in.

V_j = 1704 f/s, h = 1.29 in.

DATE: 5/28/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613	
PLOT IDENTIFICATION : G - 814	
TRAVERSE DETAILS. AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐ RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ = RADIAL ☒ : E.W. - ☒ ; N.S. - ☐ AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 0	
SCALE : X-AXIS= 3.32 INCH/UNIT Y-AXIS= 394 F.P.S./UNIT	
HISTOGRAMS: H- TO H-	



NO. XY 1101

1304

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1305

DATE: 5/28/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 815

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS = 3.32 INCH/UNIT

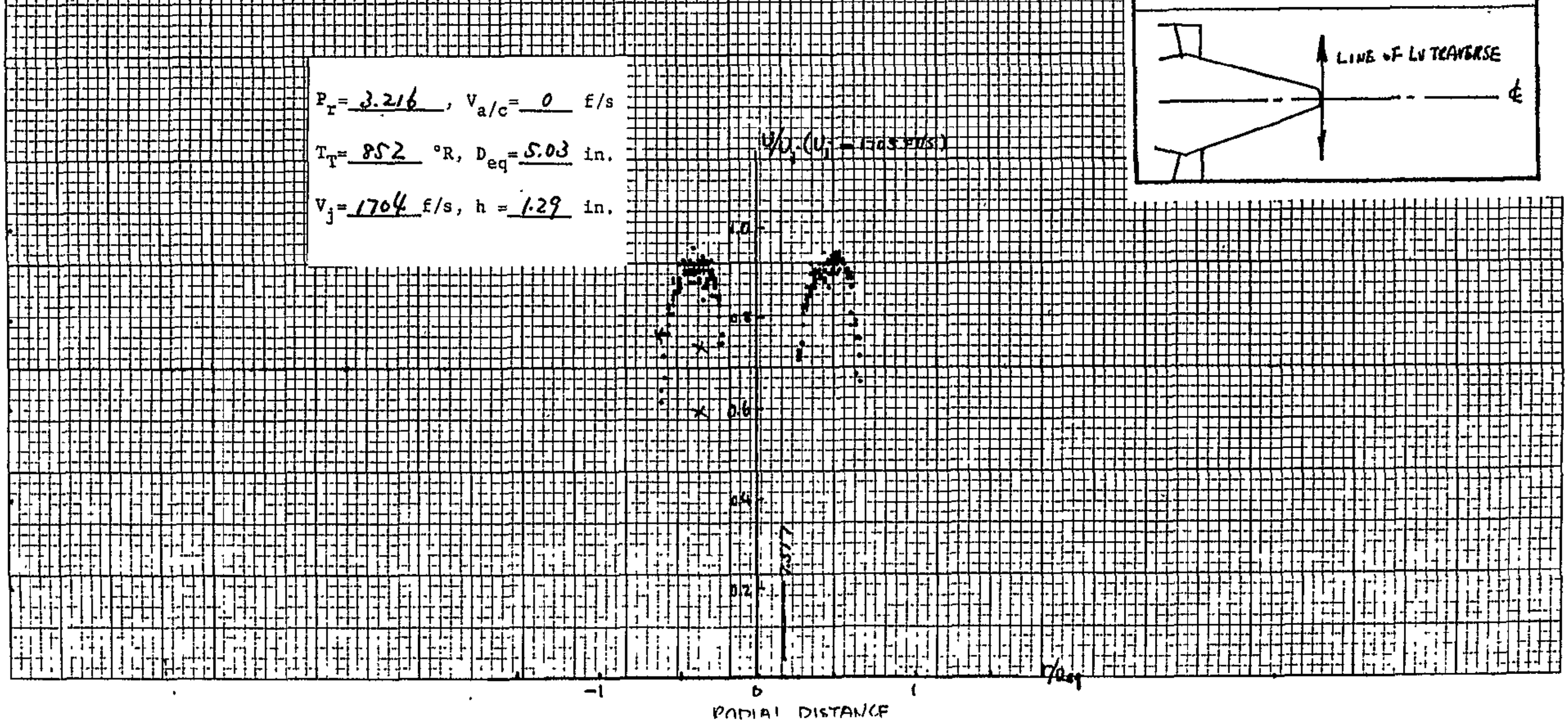
Y-AXIS = 394 F.P.S./UNIT

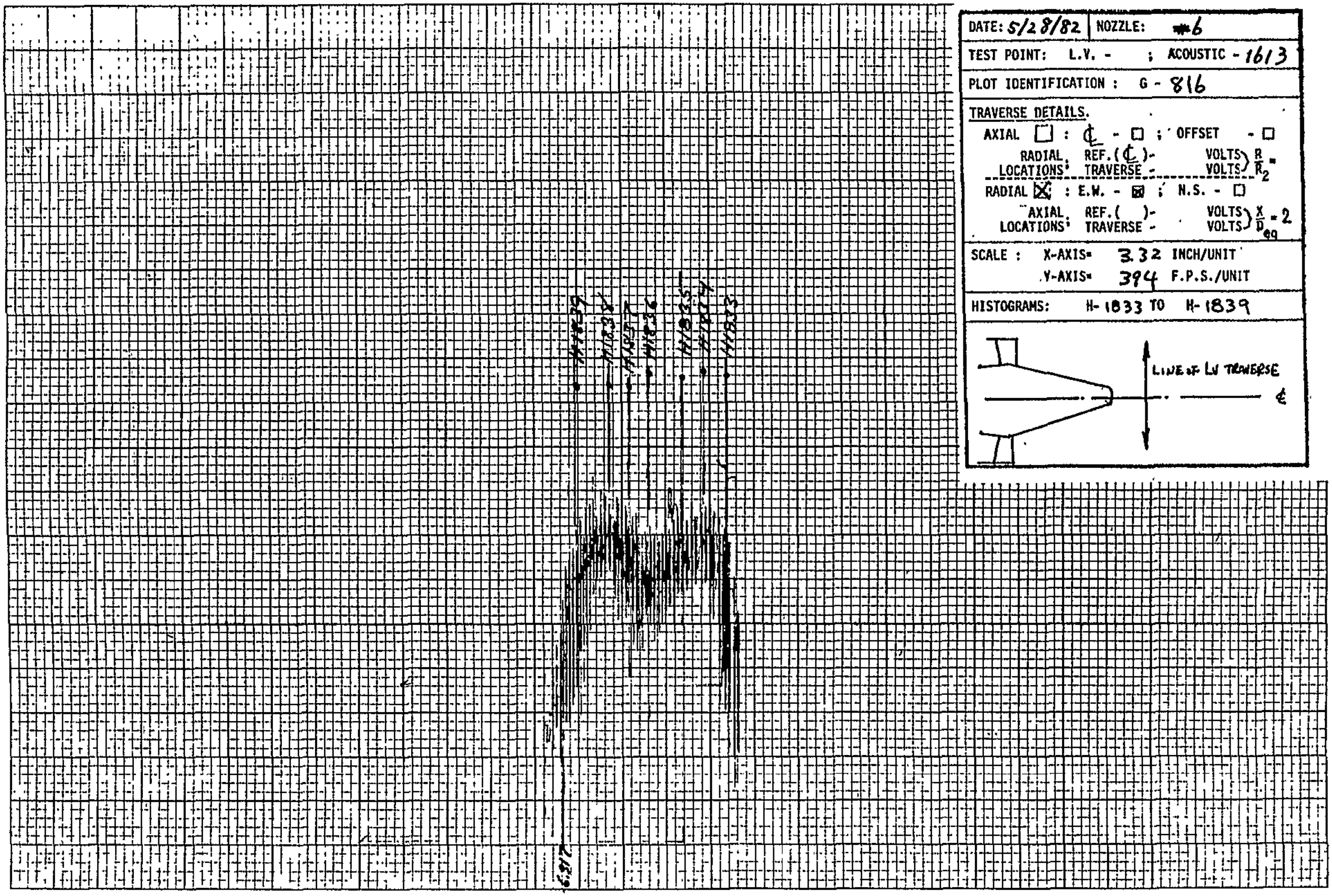
HISTOGRAMS: H- TO H-

P_r = 3.216, $V_{a/c}$ = 0 f/s

T_T = 852 °R, D_{eq} = 5.03 in.

V_j = 1704 f/s, h = 1.29 in.





DATE: 5/28/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 816

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 2

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1833 TO H-1839

LINE OF LV TRAVERSE ℄

1306

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1307

DATE: 5/28/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613	
PLOT IDENTIFICATION : G - 817	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS; TRAVERSE - VOLTS; $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.(PLUG TIP) -2.188 VOLTS; TRAVERSE -2.326 VOLTS; $\frac{X}{D_{eq}}$ = 2

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

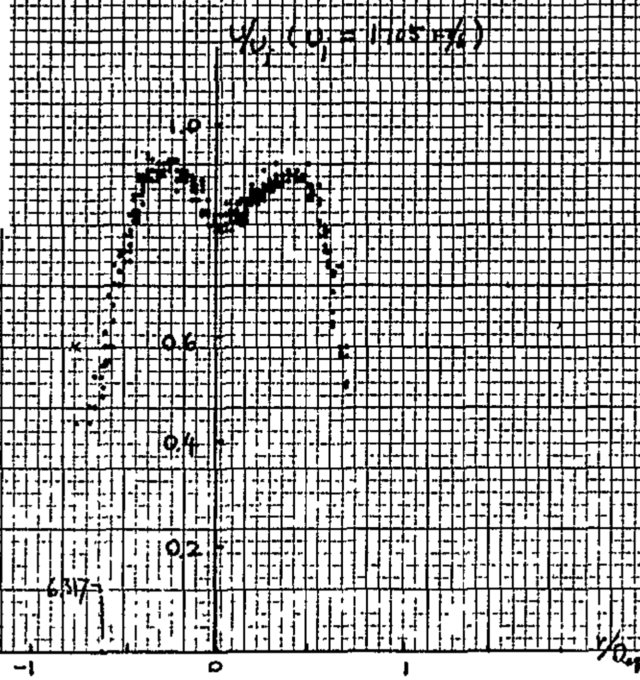
HISTOGRAMS: H-1833 TO H-1839

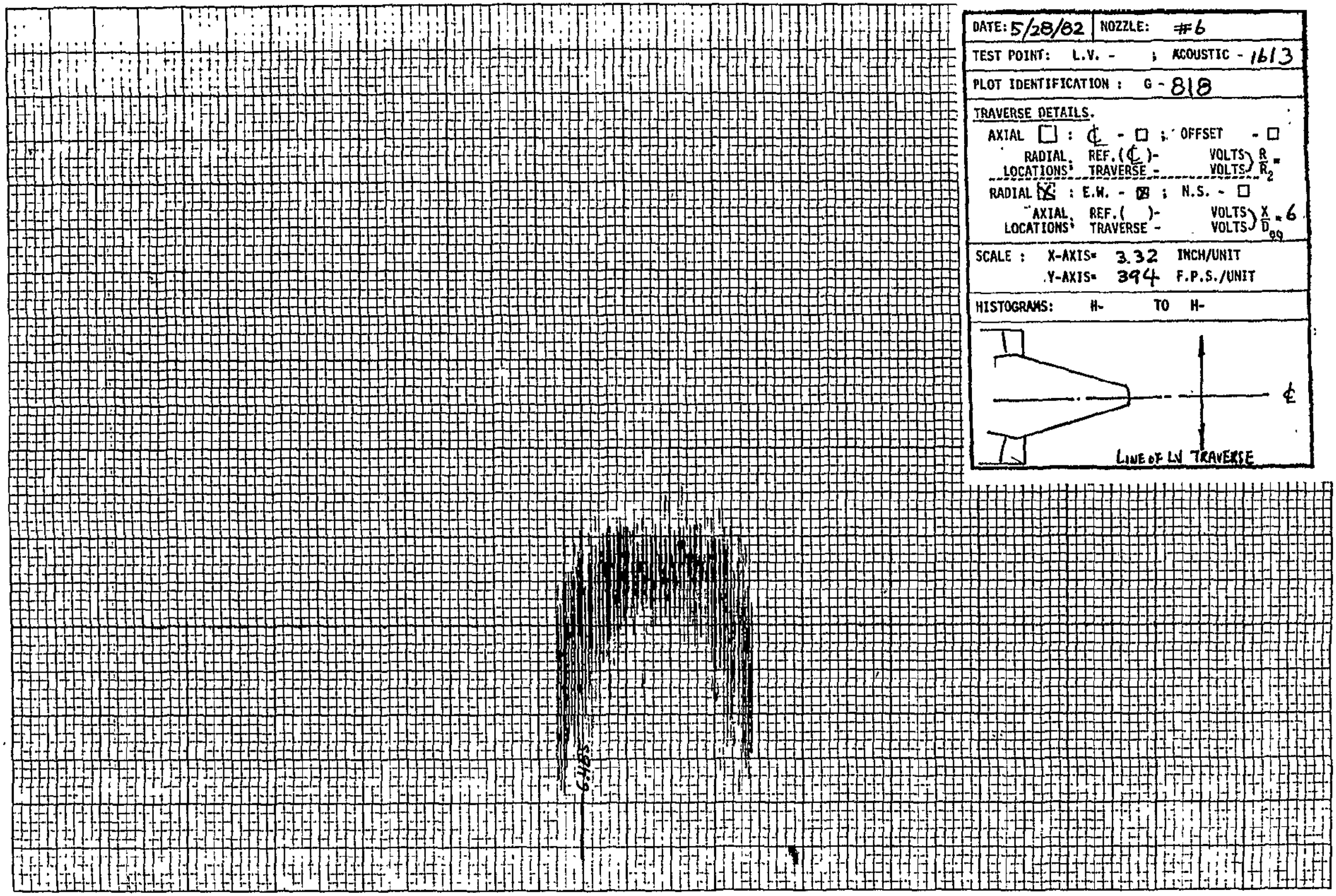
X=0 REF LINE of LV TRAVERSE ℄

P_r = 3.216 , $V_{a/c}$ = 0 f/s

T_T = 852 °R, D_{eq} = 5.03 in.

V_j = 1704 f/s, h = 1.29 in.





1308

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DATE: 5/28/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 819

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

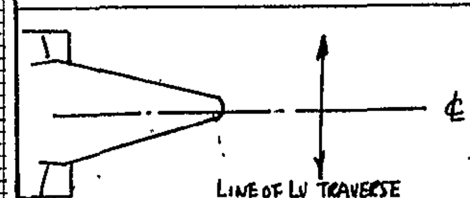
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

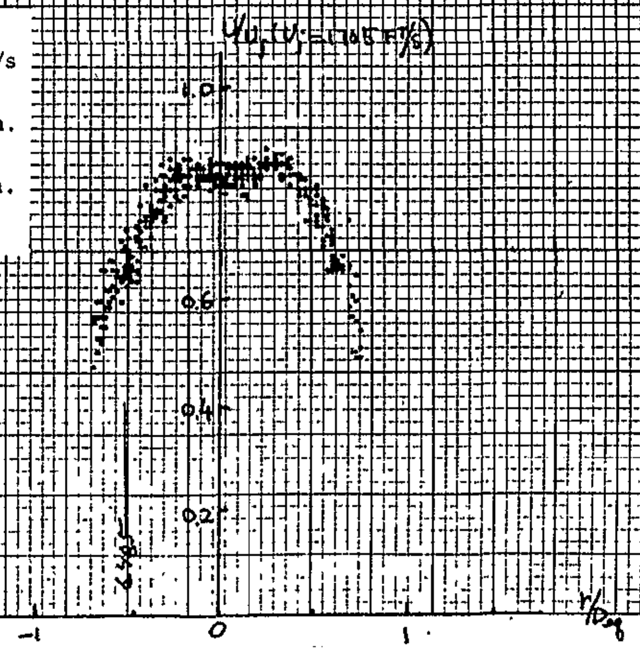
HISTOGRAMS: H- TO H-



P_r = 3.216 , $V_{a/c}$ = 0 f/s

T_T = 852 °R, D_{eq} = 5.03 in.

V_j = 1704 f/s, h = 1.29 in.



DATE: 5/28/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613	
PLOT IDENTIFICATION : G - 820	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

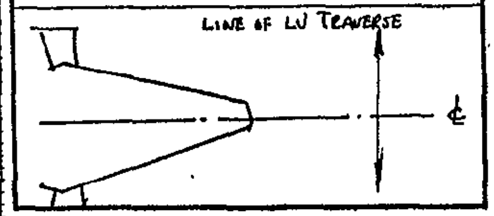
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

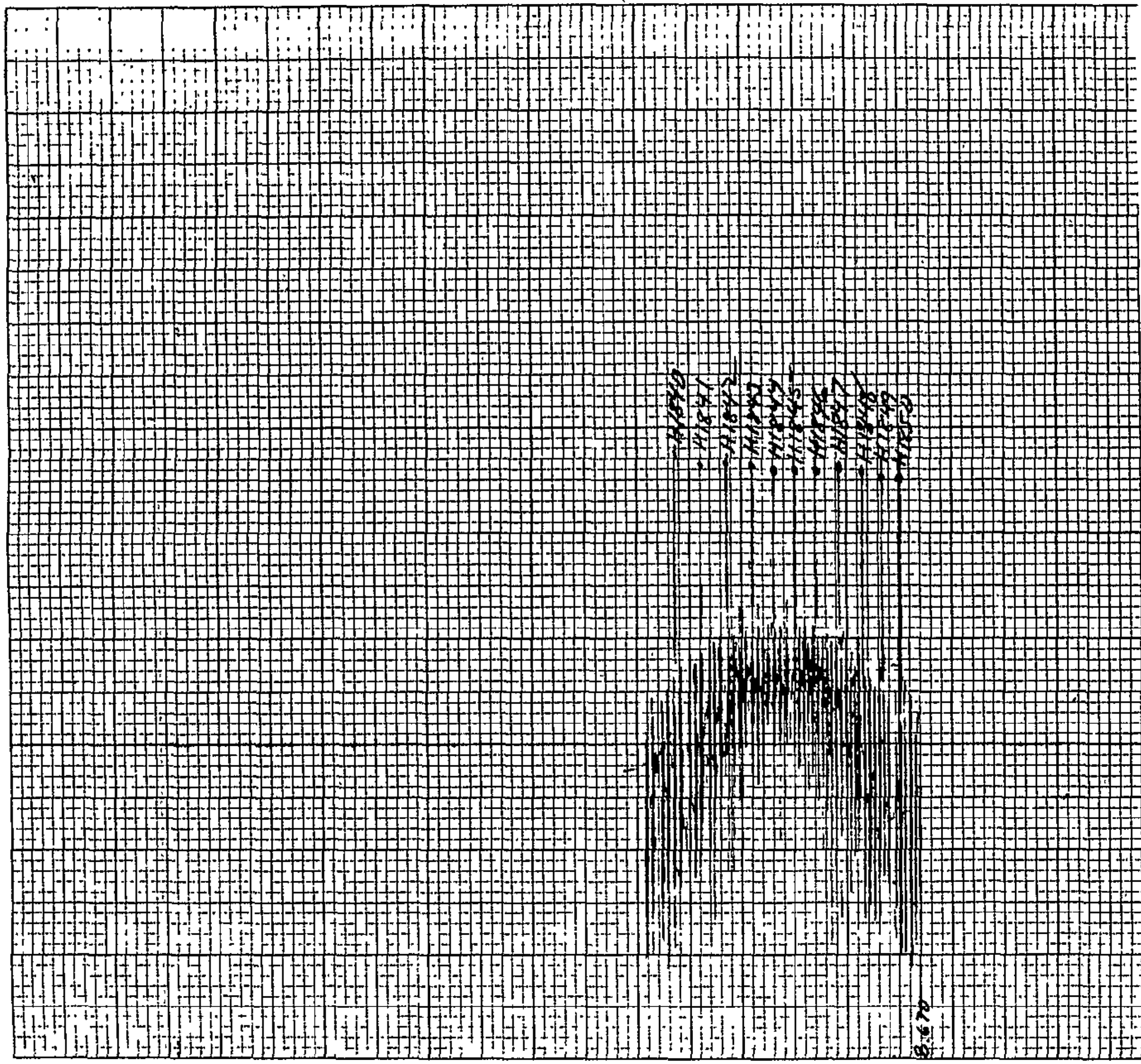
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 8

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1840 TO H-1850





1310

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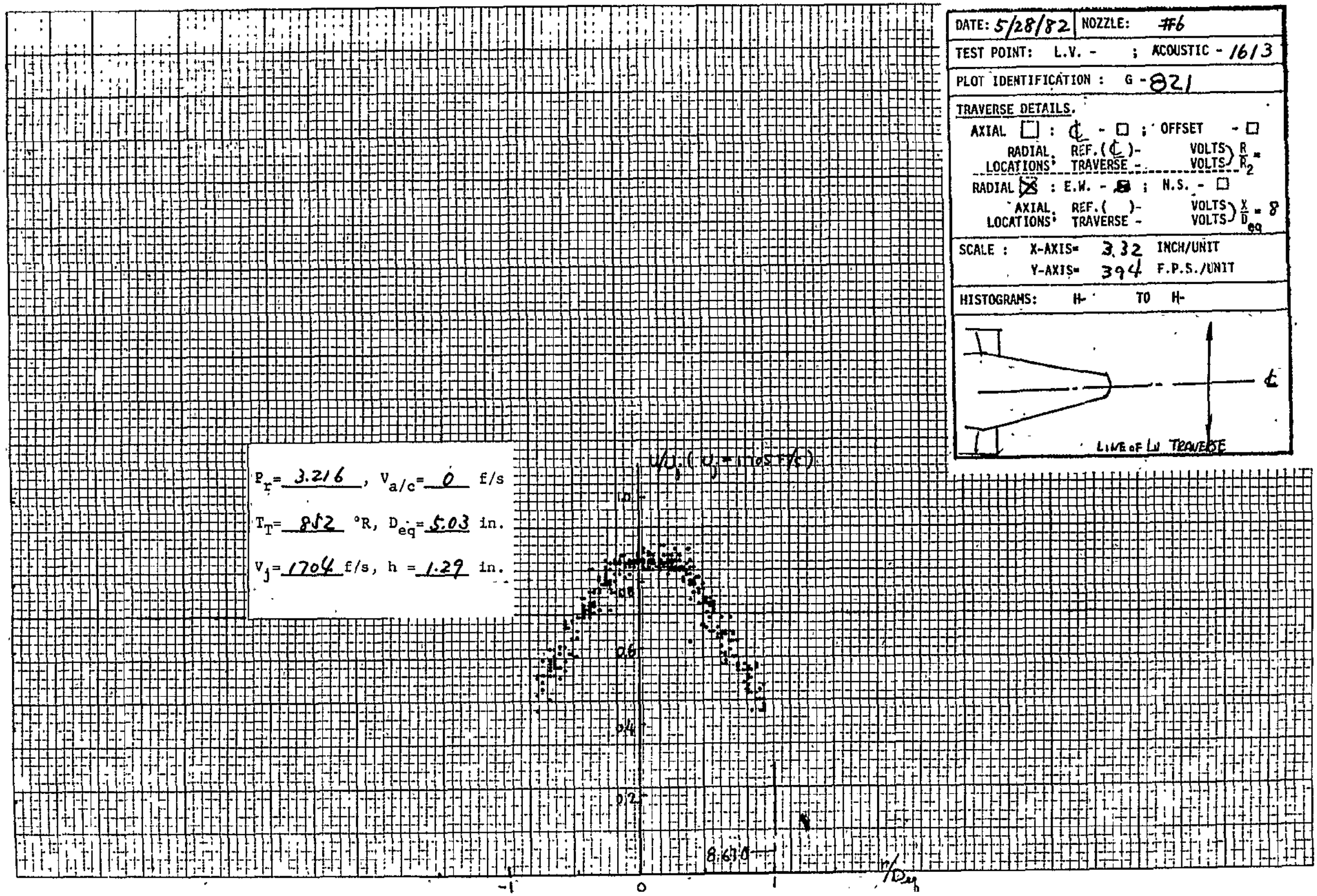

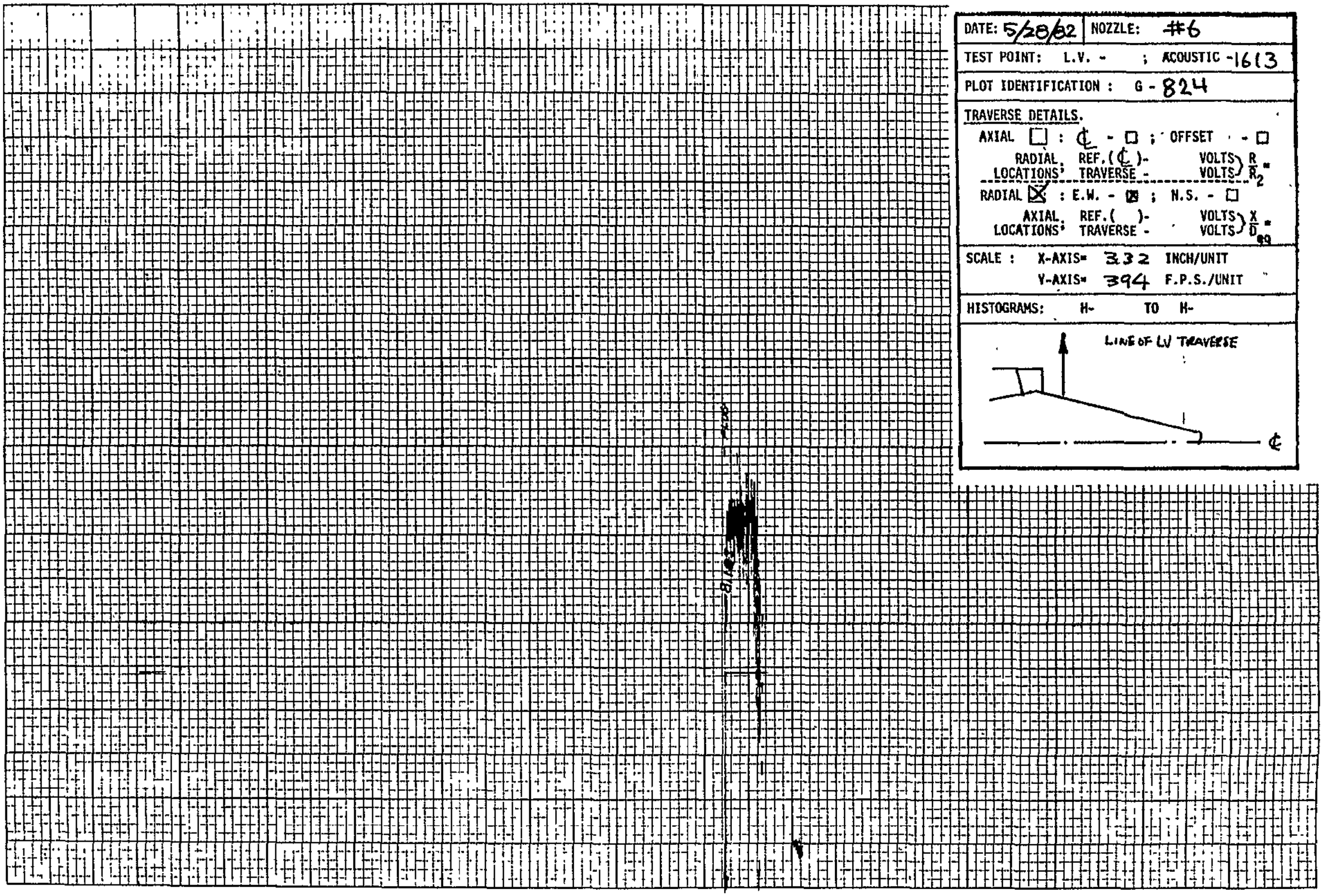

DATE: 5/28/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC -1613	
PLOT IDENTIFICATION : G - 824	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 332 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄

NO. 1011 XY

1314

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DATE: 5/28/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC -1613	
PLOT IDENTIFICATION : G - 825	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

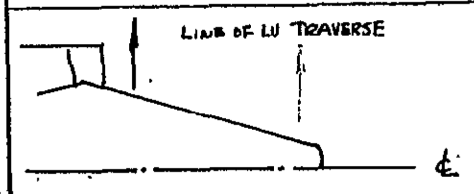
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 3.32 INCH/UNIT

Y-AXIS = 394 F.P.S./UNIT

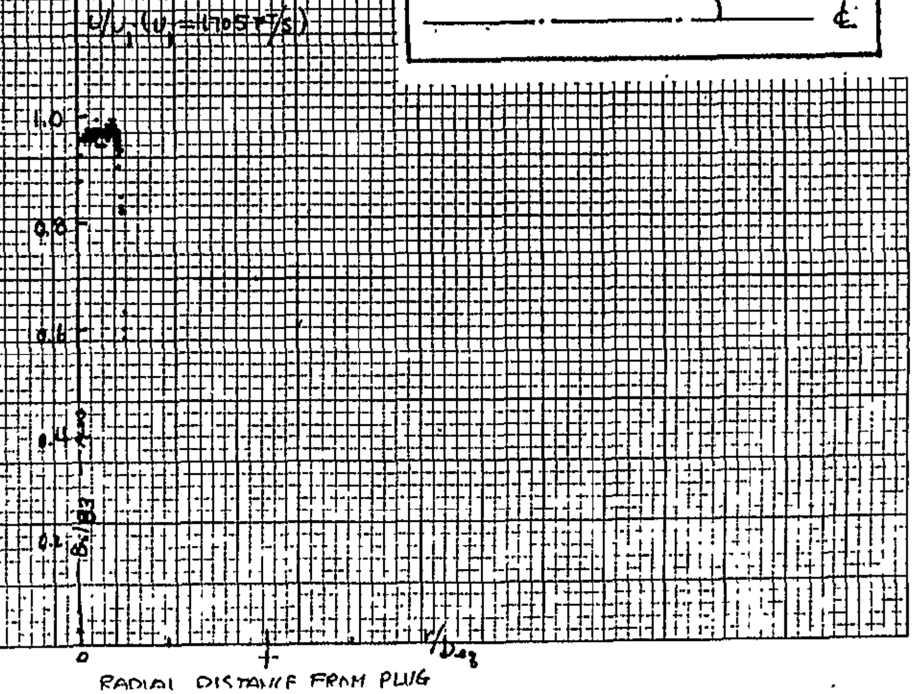
HISTOGRAMS: H- TO H-



P_r = 3.216 , $V_{a/c}$ = 0 f/s

T_T = 852 °R, D_{eq} = 5.03 in.

V_j = 1704 f/s, h = 1.29 in.



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NO. XY 1101

1316

RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

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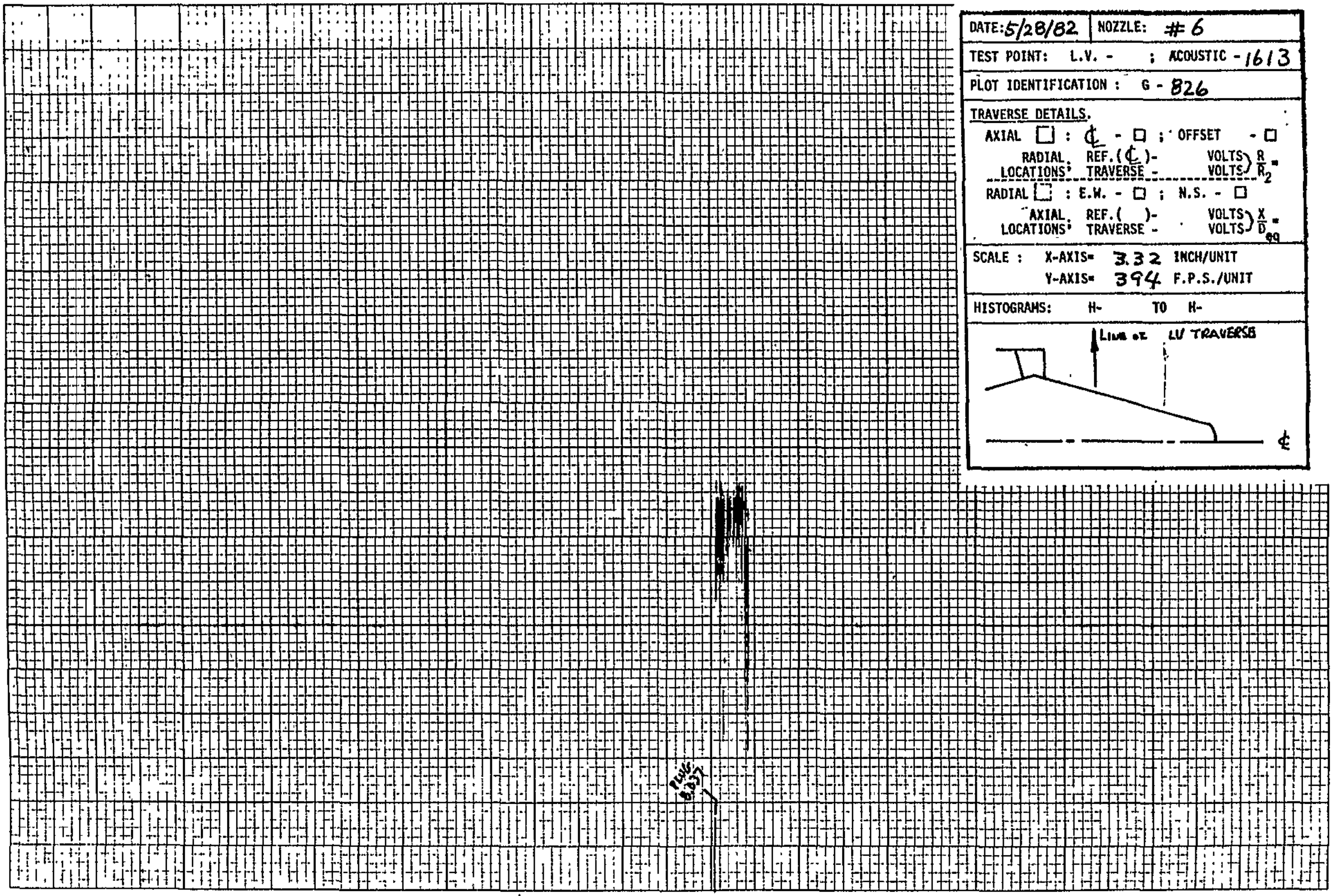


DATE: 5/28/82	NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 826

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS) $\frac{R}{R_2}$ =

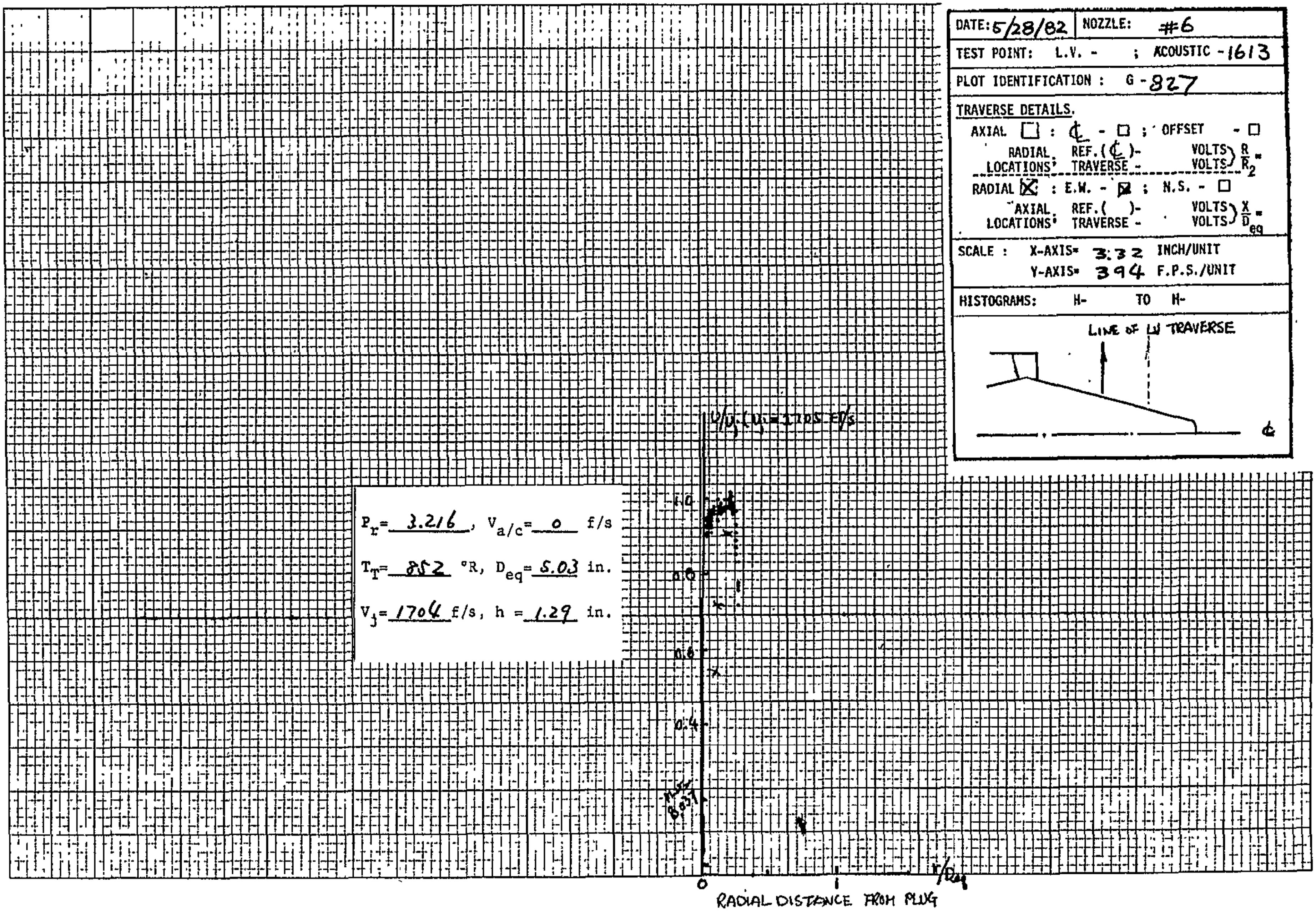
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS = 3.32 INCH/UNIT

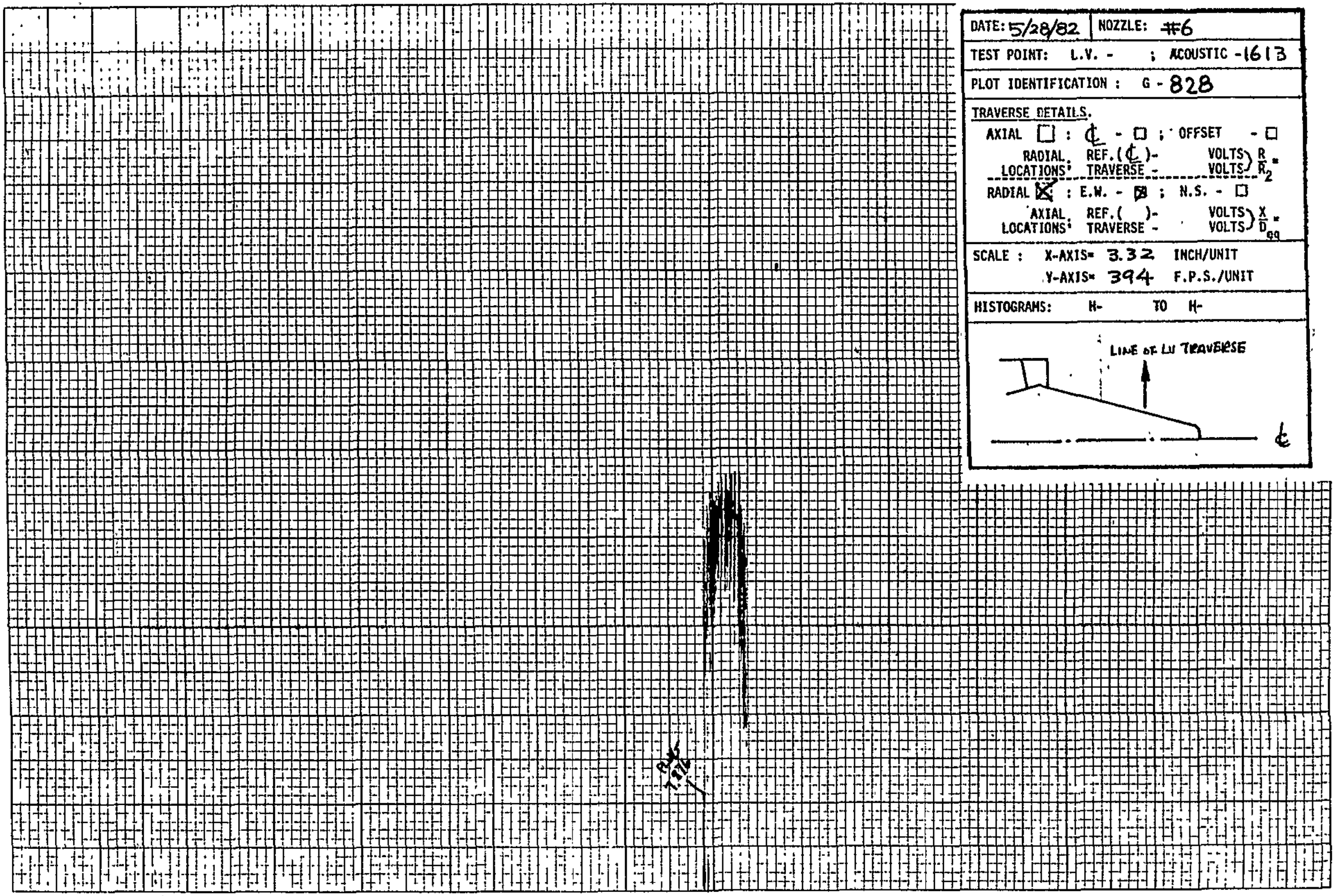
Y-AXIS = 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 5/28/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613
PLOT IDENTIFICATION : G - 827
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr = 3.216, Va/c = 0 f/s
TT = 852 °R, Deq = 5.03 in.
Vj = 1704 f/s, h = 1.29 in.
U/Uj (Uj = 1705 ft/s)
1.0
0.8
0.6
0.4
0
1
r/Deq
RADIAL DISTANCE FROM PLUG

1317



DATE: 5/28/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC -1613

PLOT IDENTIFICATION : G - 828

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

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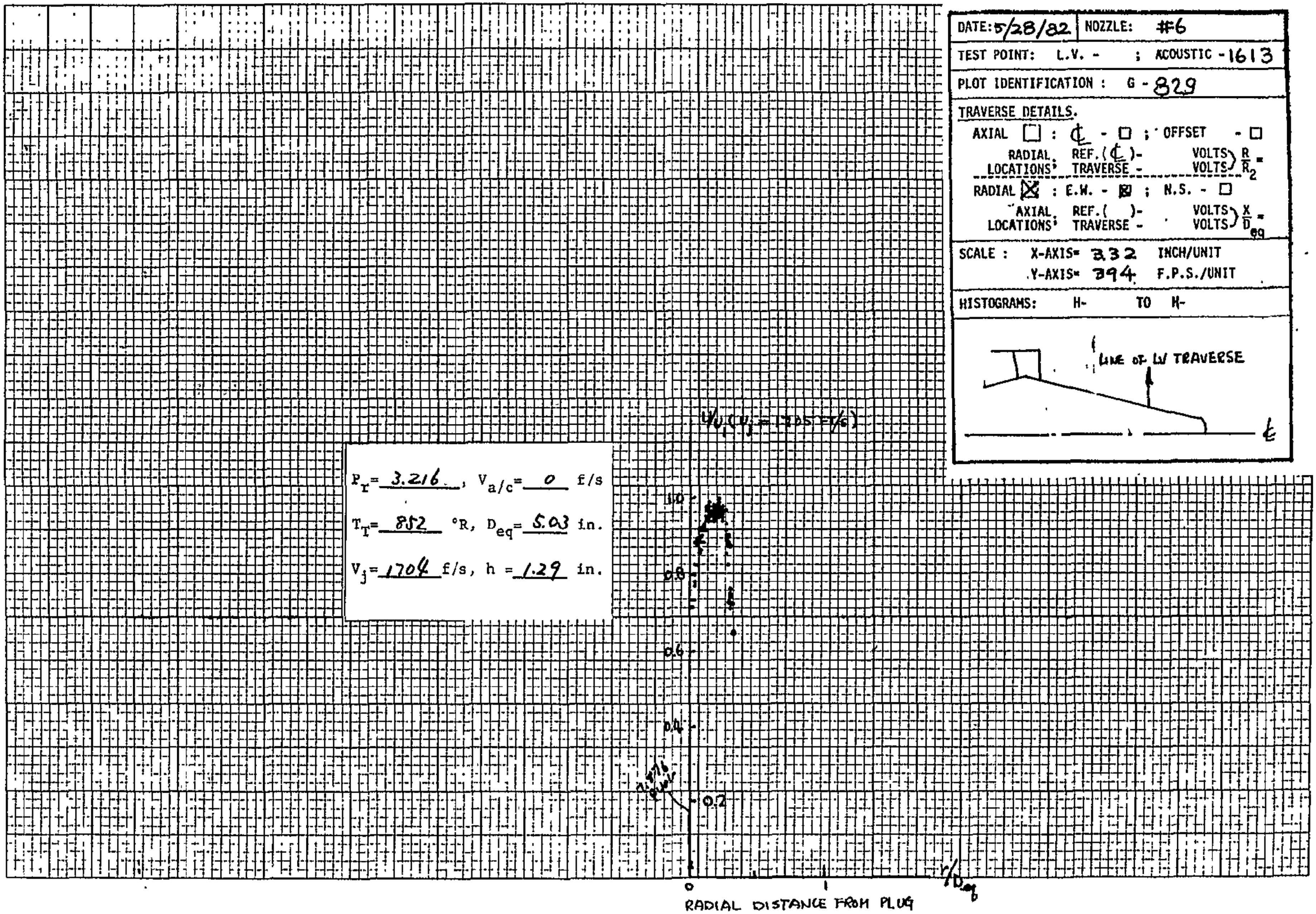

DATE: 5/28/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613
PLOT IDENTIFICATION : G - 829
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.216 , Va/c= 0 f/s
TT= 852 °R, Deq= 5.03 in.
Vj= 1704 f/s, h = 1.29 in.
V/Vj (Vj = 1705 F/S)
1.0
0.8
0.6
0.4
0.2
0
1
r/Deq
RADIAL DISTANCE FROM PLUG

1319

DATE: 5/28/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613	
PLOT IDENTIFICATION : G - 830	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

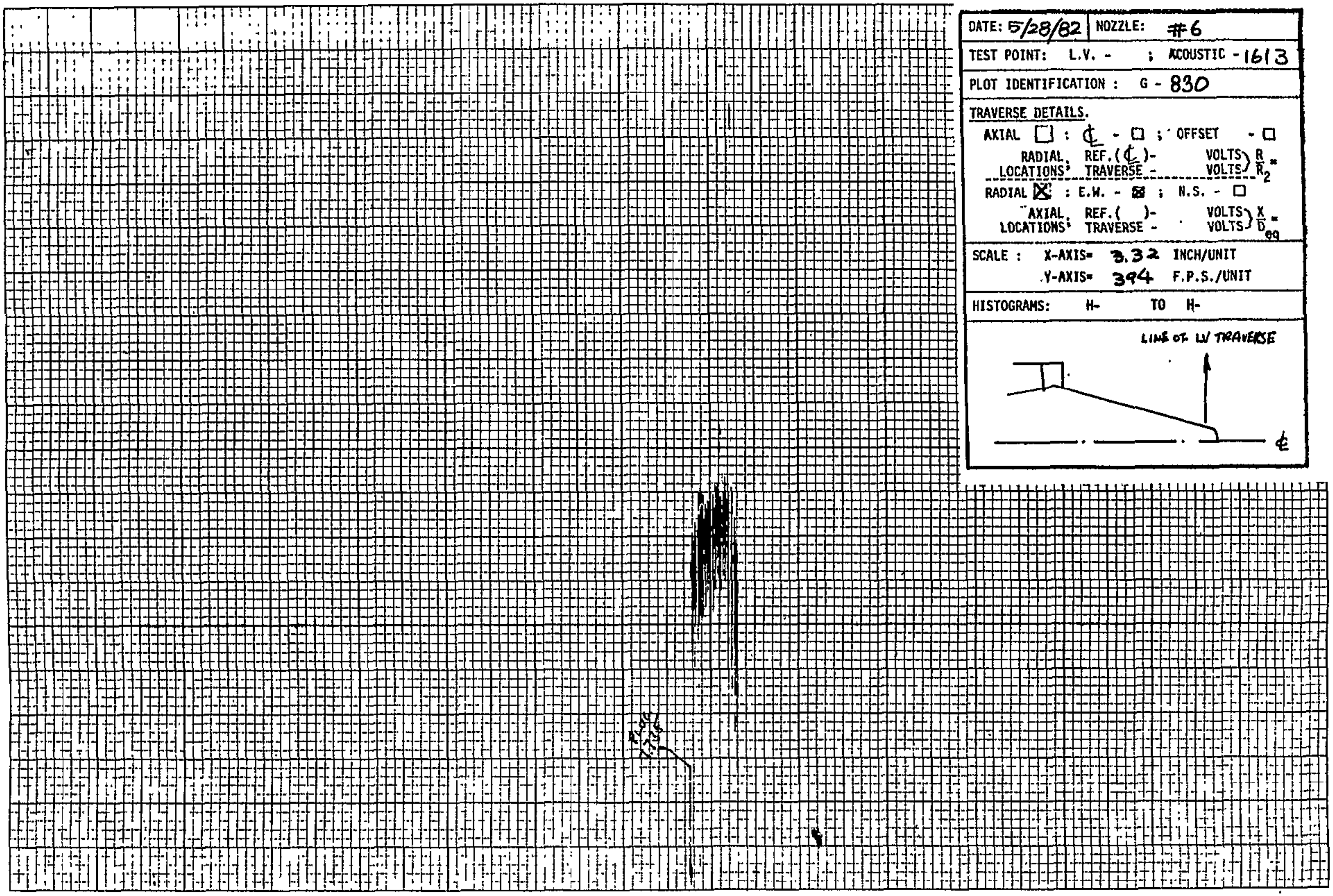
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 5/28/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC -1613	
PLOT IDENTIFICATION : G-831	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

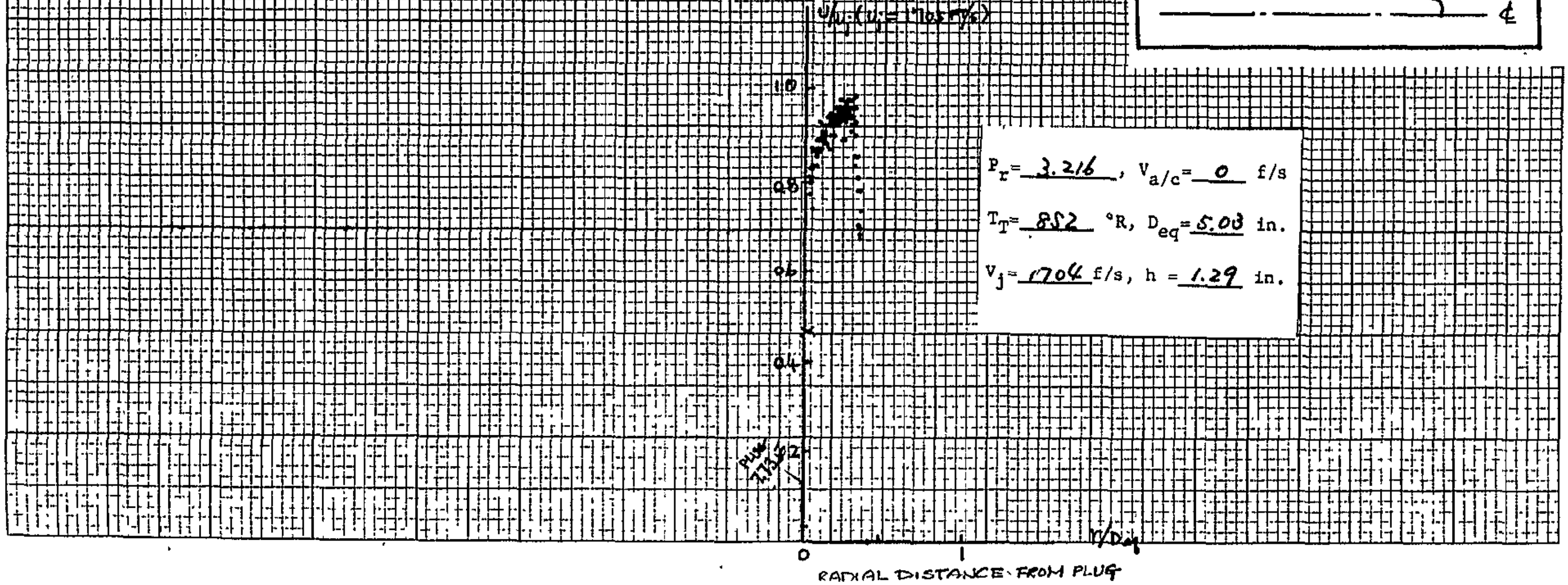
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



P_r= 3.216 , $V_{a/c}$= 0 f/s

T_T= 852 °R, D_{eq}= 5.03 in.

V_j= 1704 f/s, h = 1.29 in.

NO. XY 1011

1321

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DATE: 5/28/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 832

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS / VOLTS) $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS / VOLTS) $\frac{X}{D_{eq}}$ =

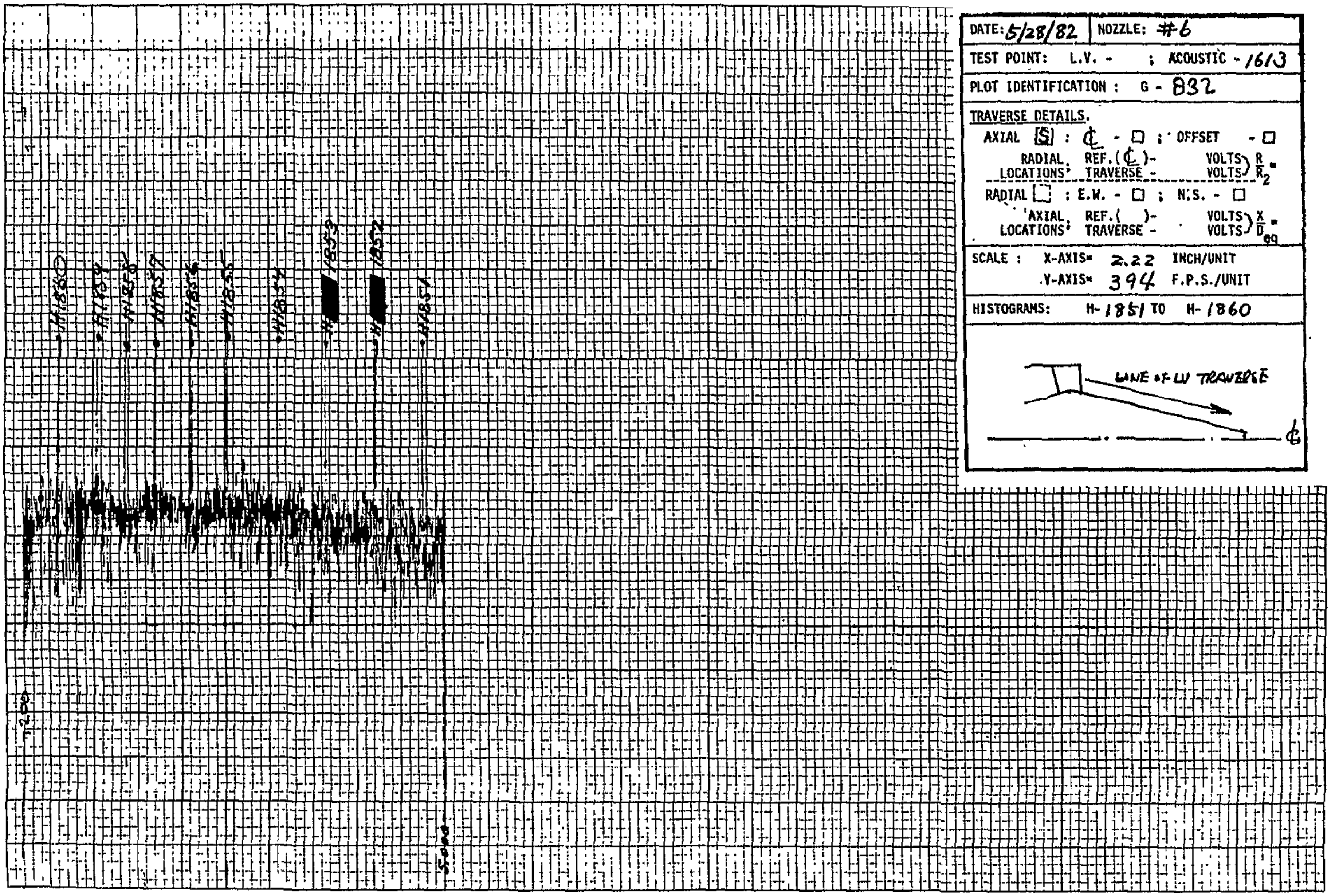
SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H-1851 TO H-1860

LINE OF LV TRAVERSE

℄



No. XY 1101

1322

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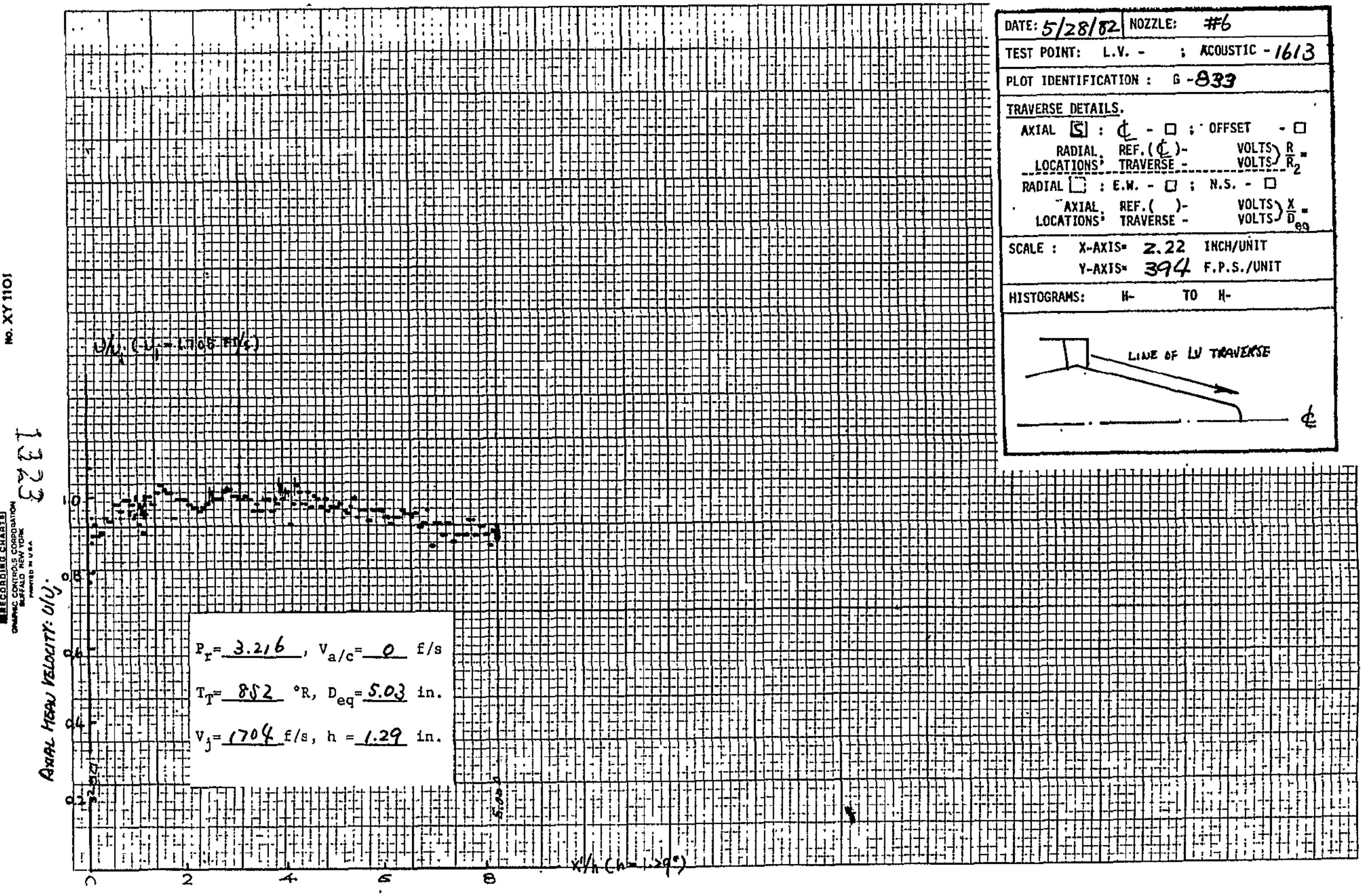
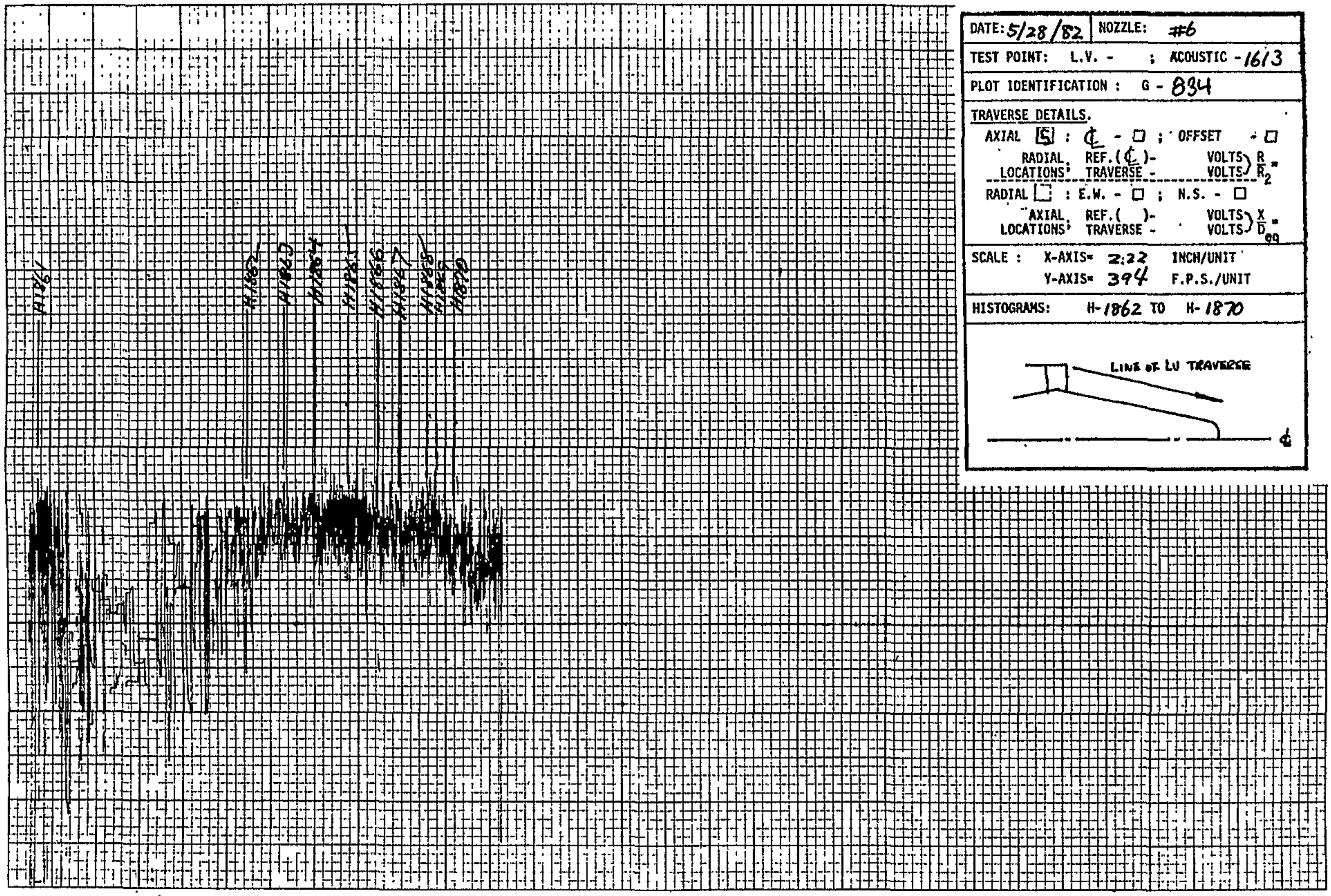

DATE: 5/28/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613
PLOT IDENTIFICATION : G-833
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS = 2.22 INCH/UNIT
Y-AXIS = 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
U/Uj (Uj = 1708 ft/s)
AXIAL MEAN VELOCITY: U/Uj
Pr = 3.216, Va/c = 0 f/s
TT = 852 °R, Deq = 5.03 in.
Vj = 1704 f/s, h = 1.29 in.
x/h (h = 1.29")
0
2
4
6
8
1.0
0.8
0.6
0.4
0.2
1323
NO. XY 1101



NO XY 1101

1324

GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK

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DATE: 5/28/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 835

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$ =

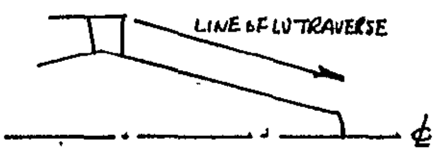
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

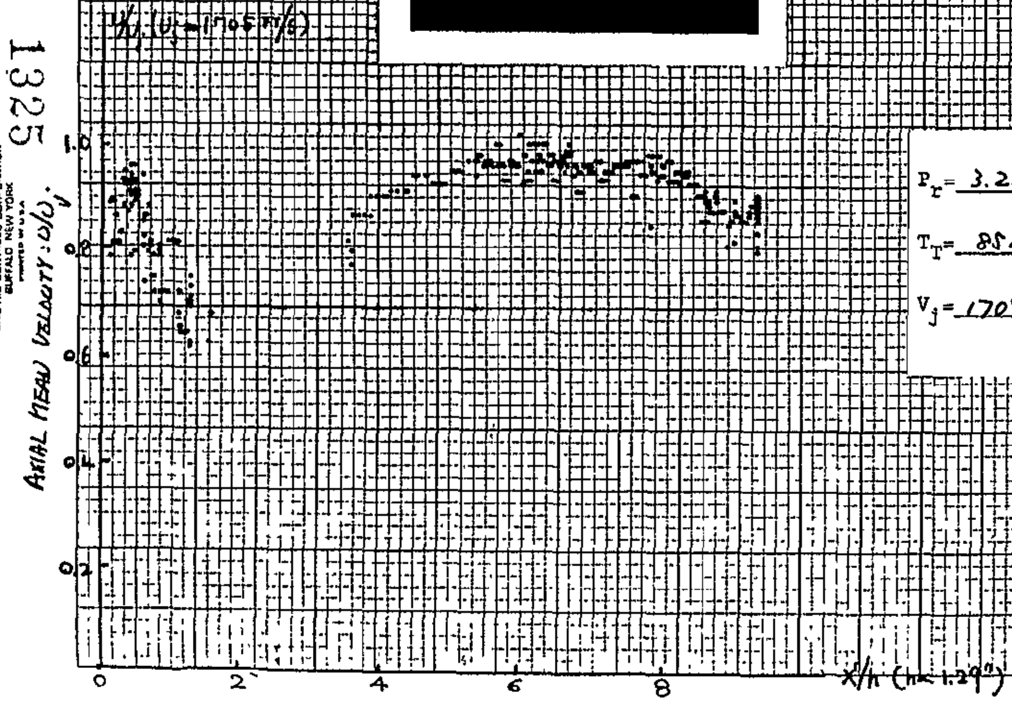
HISTOGRAMS: H-1862 TO H-1870



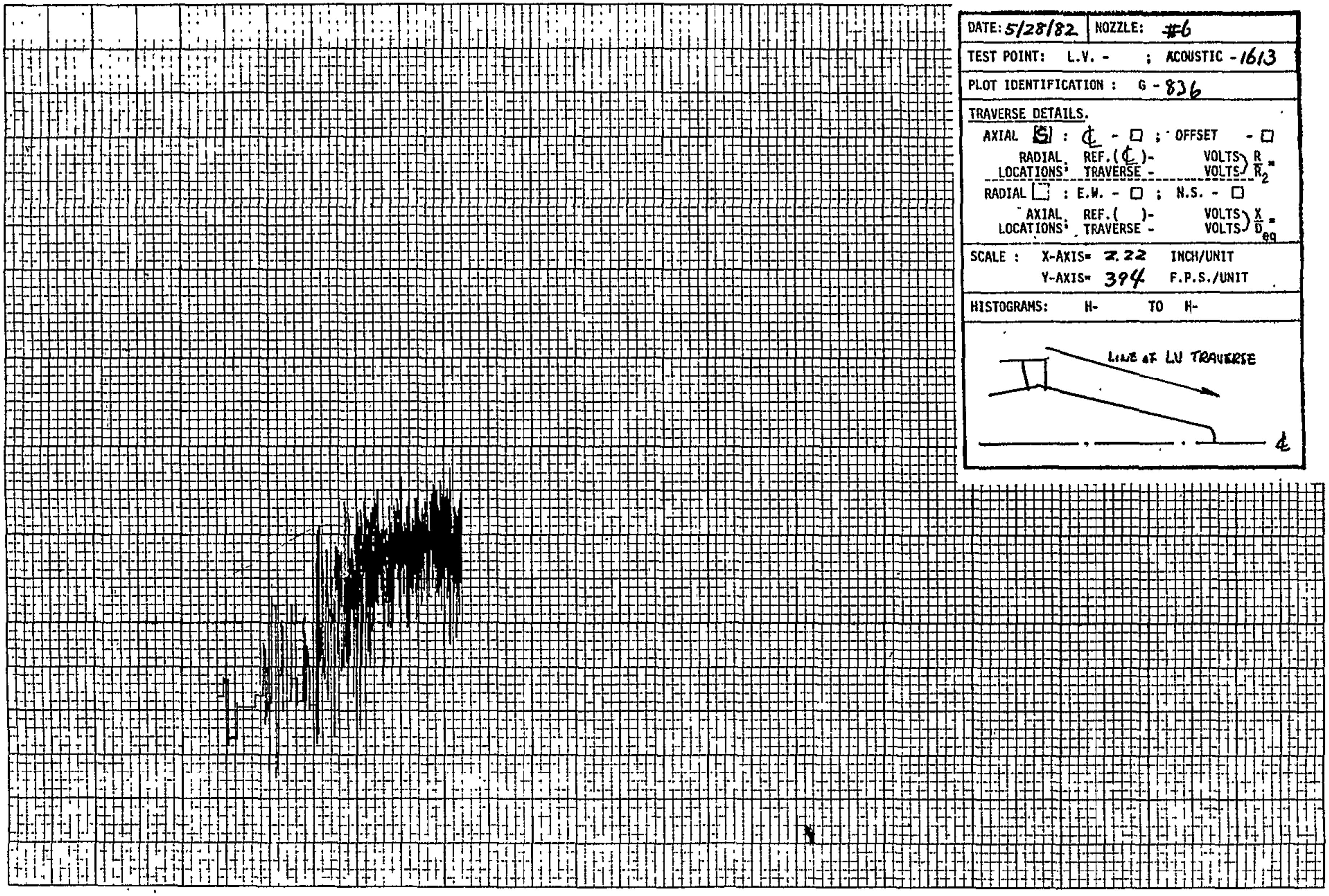
P_r = 3.216 , $V_{a/c}$ = 0 f/s

T_T = 852 °R, D_{eq} = 5.03 in.

V_j = 1704 f/s, h = 1.29 in.



1325



DATE: 5/28/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 836

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE of LV TRAVERSE

℄

NO. XY 1101

1326

GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK

RECORDING CHARTS

ORIGINAL PAGE IS OF POOR QUALITY

1327

DATE: 5/28/82	NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G-837

TRAVERSE DETAILS.

AXIAL [S] : ℄ - □ ; OFFSET - □

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL □ : E.W. - □ ; N.S. - □

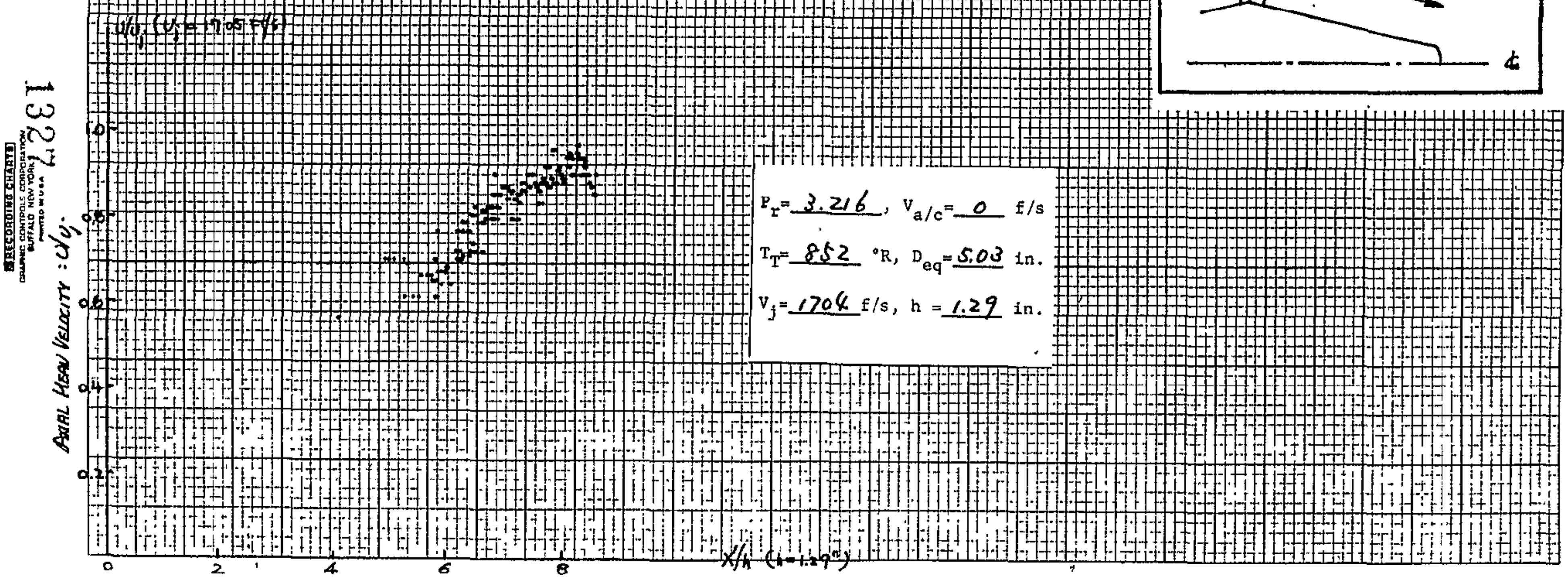
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

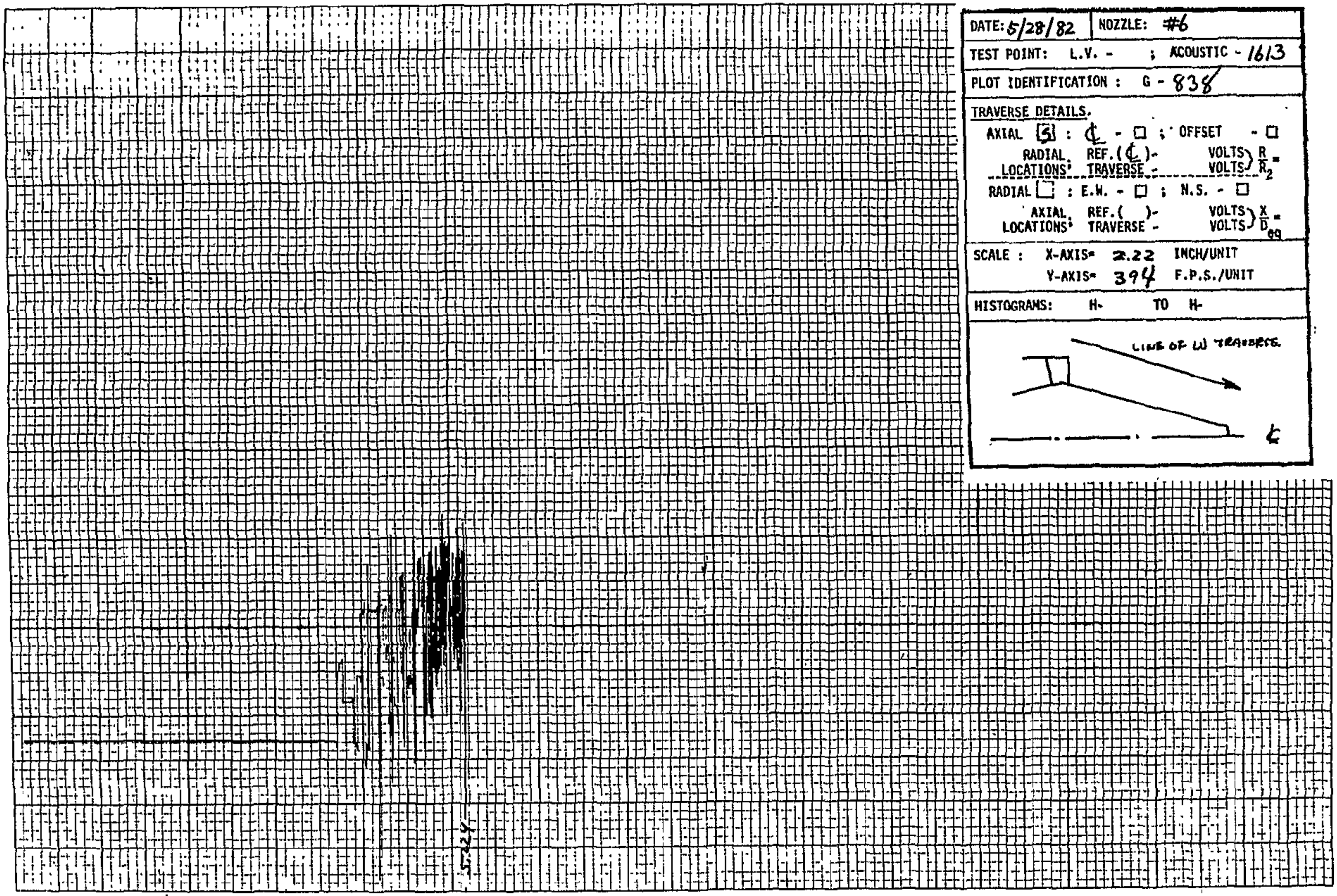
℄



P_r= 3.216 , $V_{a/c}$= 0 f/s

T_T= 852 °R, D_{eq}= 5.03 in.

V_j= 1704 f/s, h = 1.29 in.



DATE: 5/28/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 838

TRAVERSE DETAILS.

AXIAL [5] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS) $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

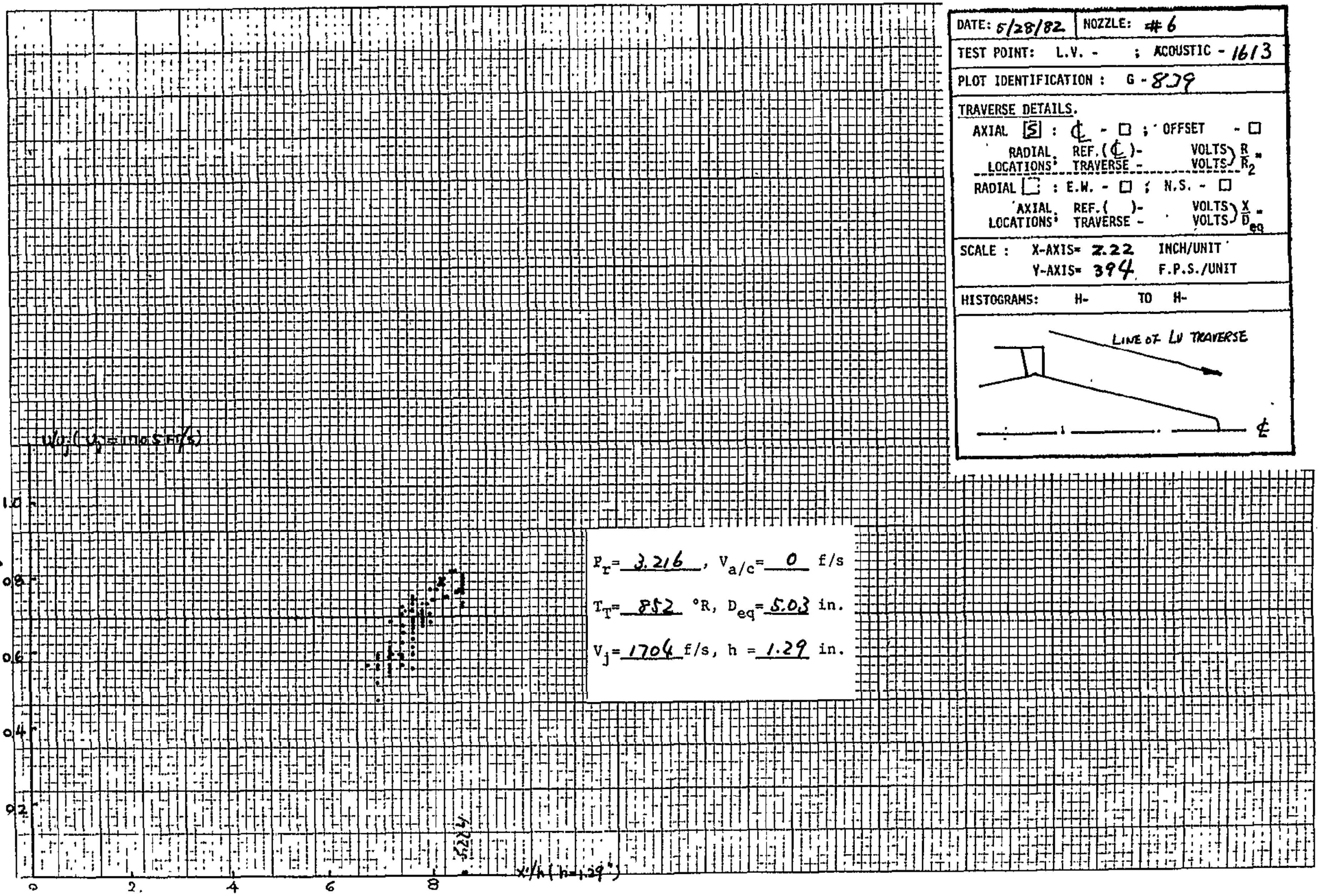
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

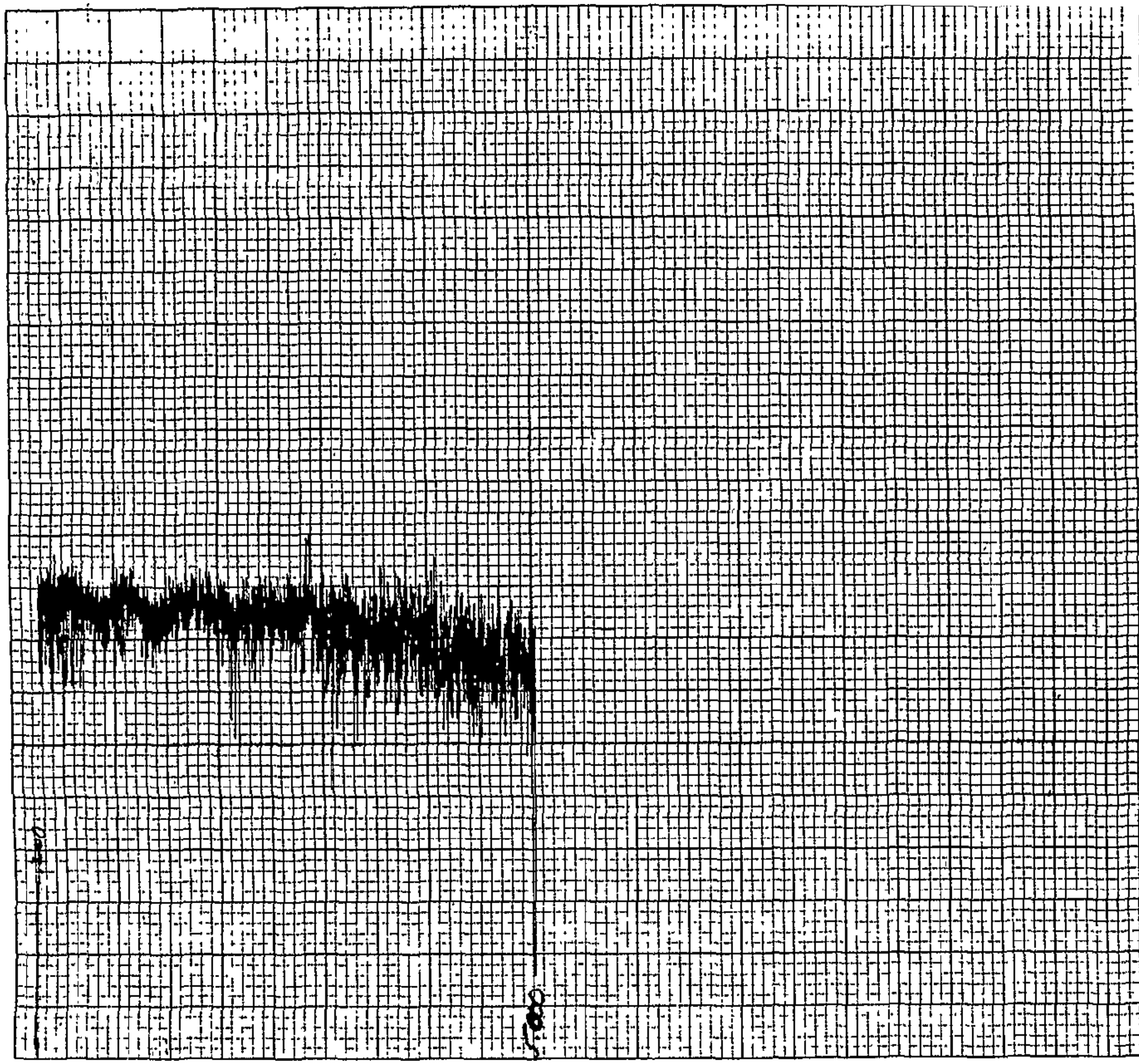
HISTOGRAMS: H- TO H-

NO. XY 1101

1328


DATE: 5/28/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613
PLOT IDENTIFICATION : G - 829
TRAVERSE DETAILS.
AXIAL [S] : ℄ - □ ; OFFSET - □
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL □ : E.W. - □ ; N.S. - □
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.216, Va/c= 0 f/s
TT= 852 °R, Deq= 5.03 in.
Vj= 1704 f/s, h = 1.29 in.
V/Vj (Vj=1705 FT/S)
AXIAL VELOCITY : V/Vj
x'/h (h=1.29")
1.0
0.8
0.6
0.4
0.2
0
2.
4
6
8

1329



DATE: 5/28/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1613

PLOT IDENTIFICATION : G - 840

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

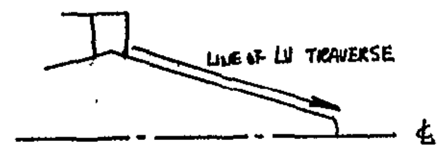
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

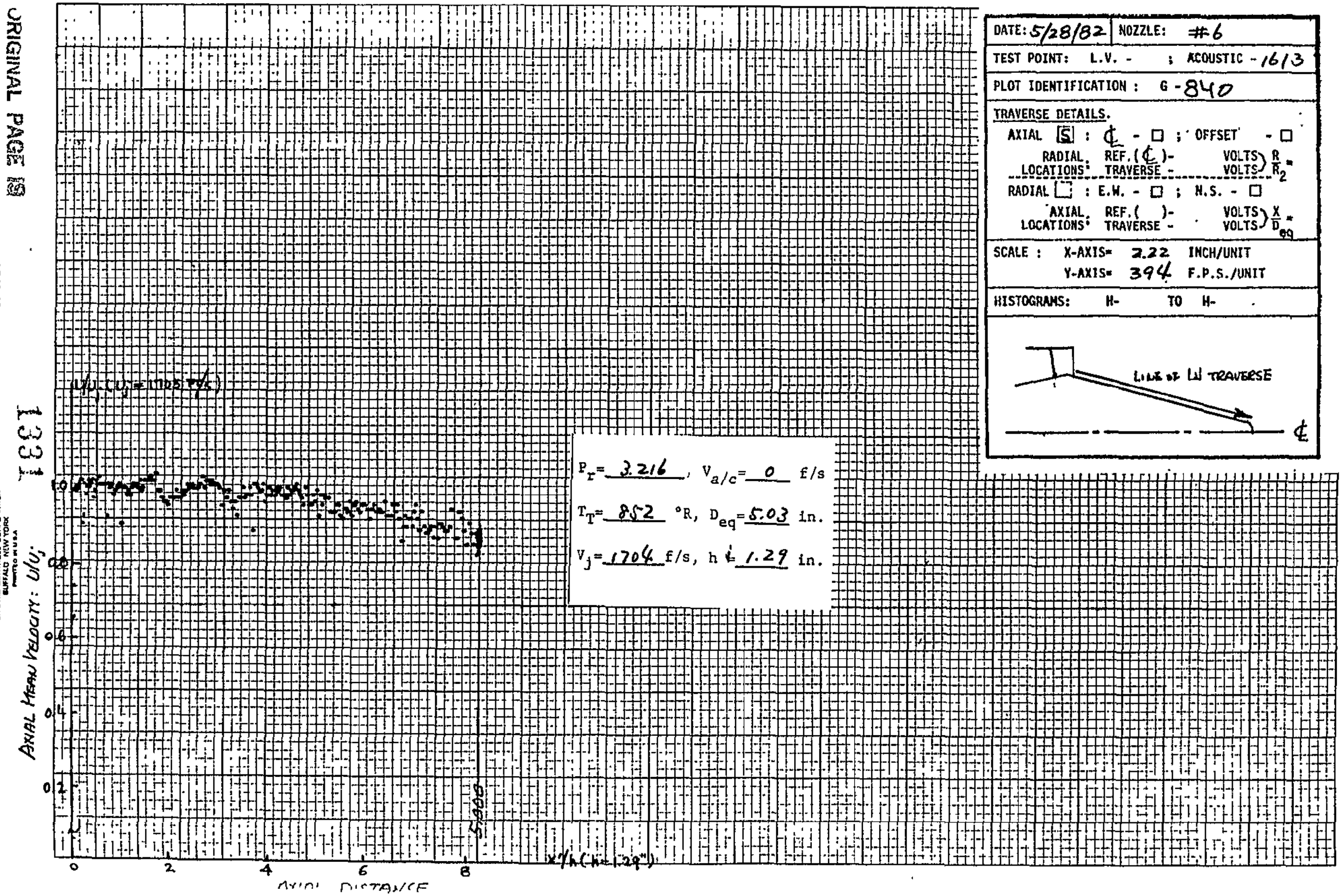
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT

HISTOGRAMS: H- TO H-




DATE: 5/28/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1613
PLOT IDENTIFICATION : G - 840
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF. (℄) - TRAVERSE -
VOLTS / VOLTS R/R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF. ( ) - TRAVERSE -
VOLTS / VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 394 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
Pr= 3.216 , Va/c= 0 f/s
TT= 852 °R, Deq= 5.03 in.
Vj= 1704 f/s, h = 1.29 in.
AXIAL MEAN VELOCITY: U/Uj
AXIAL DISTANCE
X/h (h=1.29")
0
2
4
6
8
0.2
0.4
0.6
0.8
1.0

Model 6

Test Point 1614

DATE: 6/3/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 842

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

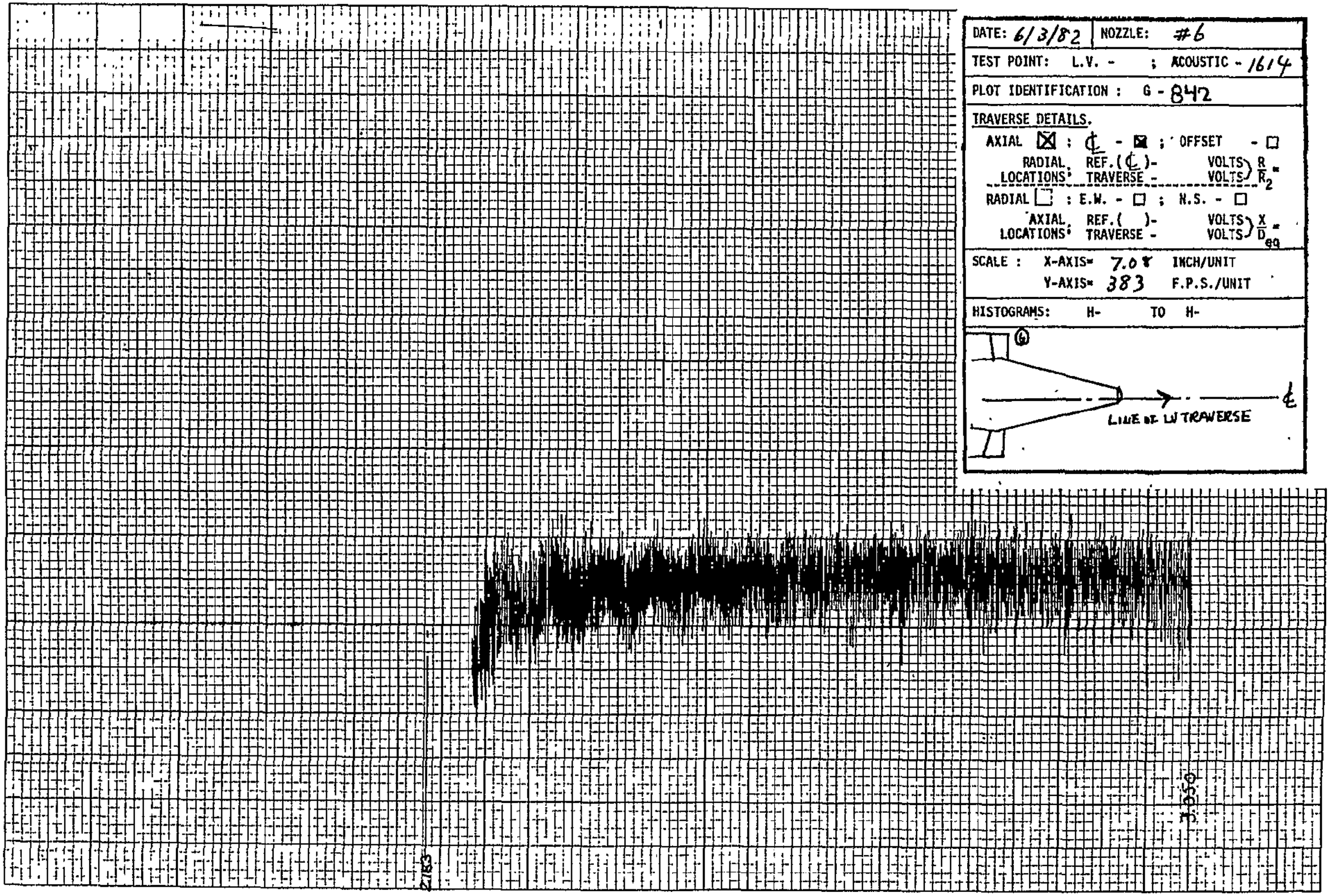
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

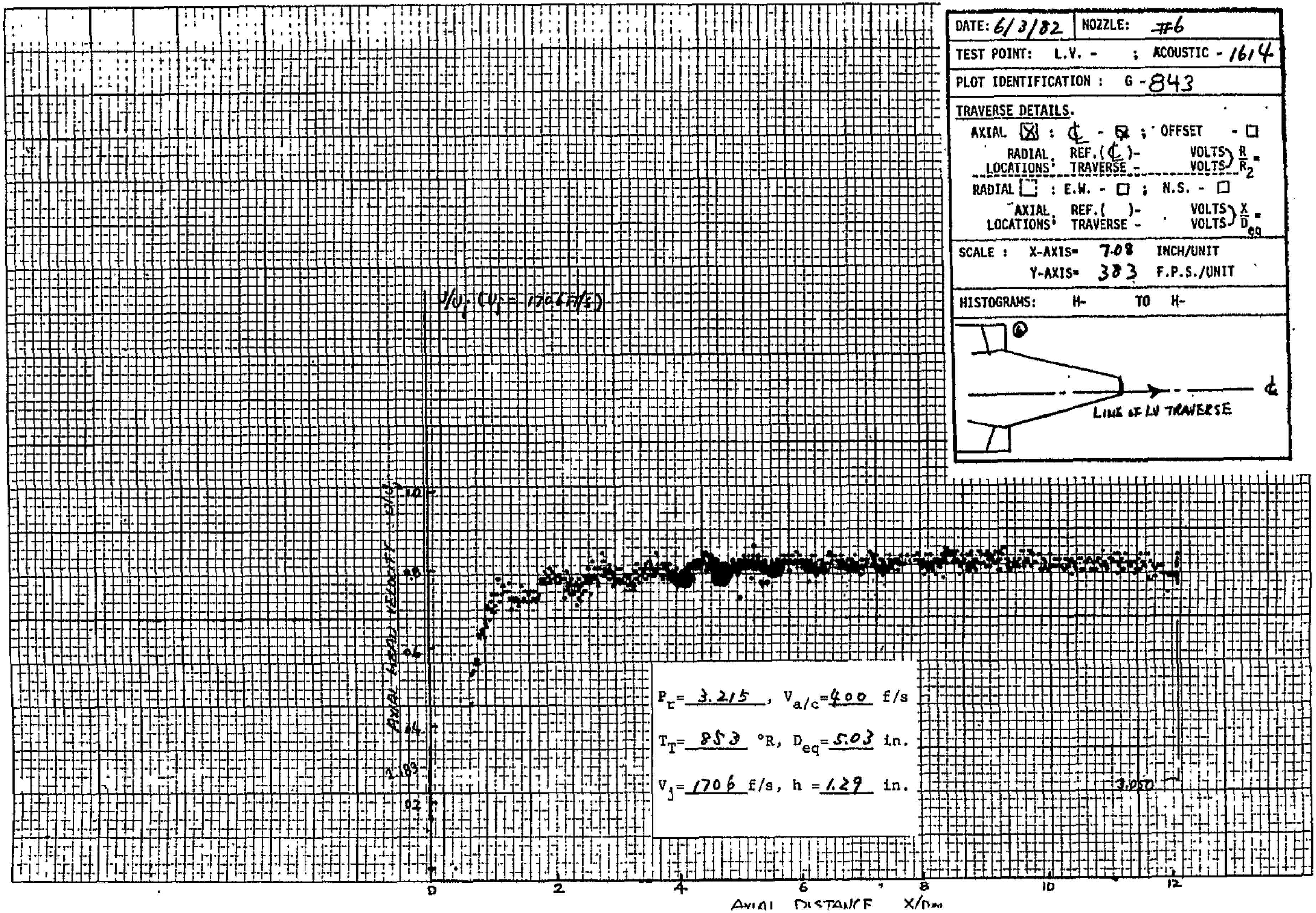
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

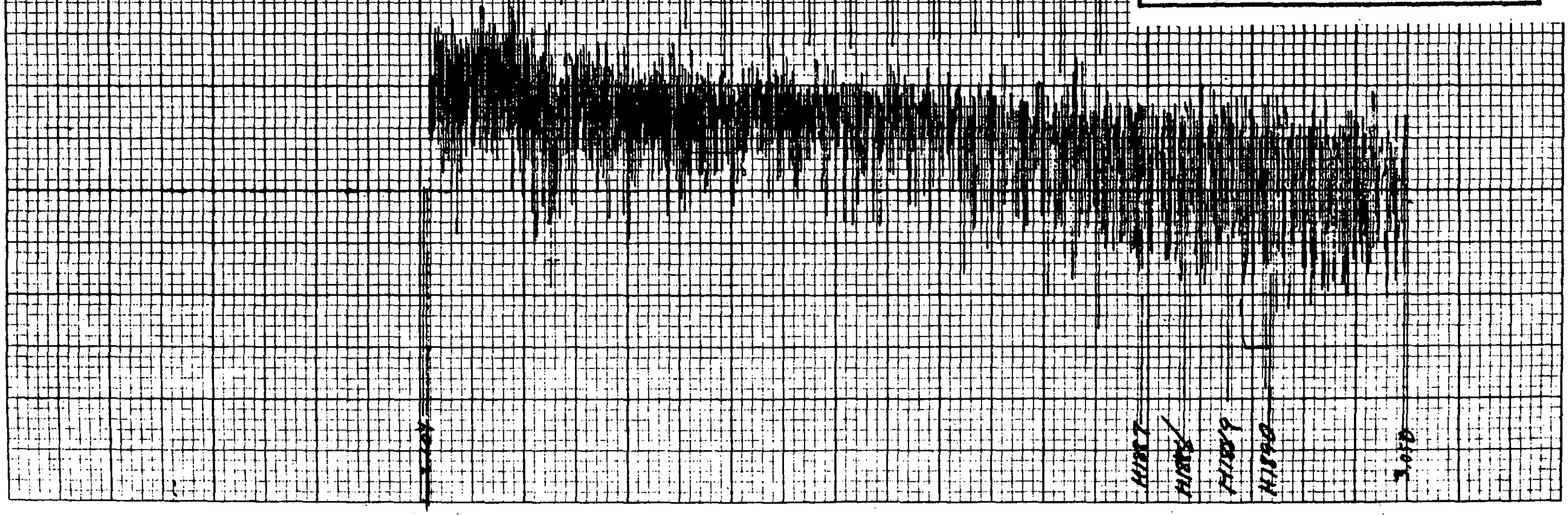
SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-




DATE: 6/3/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614
PLOT IDENTIFICATION : G - 843
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☒ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS R/R2 =
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
V/Vj (Vj = 1706 ft/s)
AXIAL MEAN VELOCITY U/Vj
1.0
.8
.6
.4
2.183
.2
0
2
4
6
8
10
12
3.050
AXIAL DISTANCE X/Deq
Pr = 3.215 , Va/c = 400 f/s
TT = 853 °R, Deq = 5.03 in.
Vj = 1706 f/s, h = 1.29 in.



DATE: 6/3/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614	
PLOT IDENTIFICATION : G - 844	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) $\frac{R}{R_2}$ =

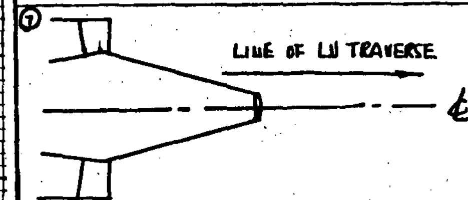
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 7.08 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H-1871 TO H-1880



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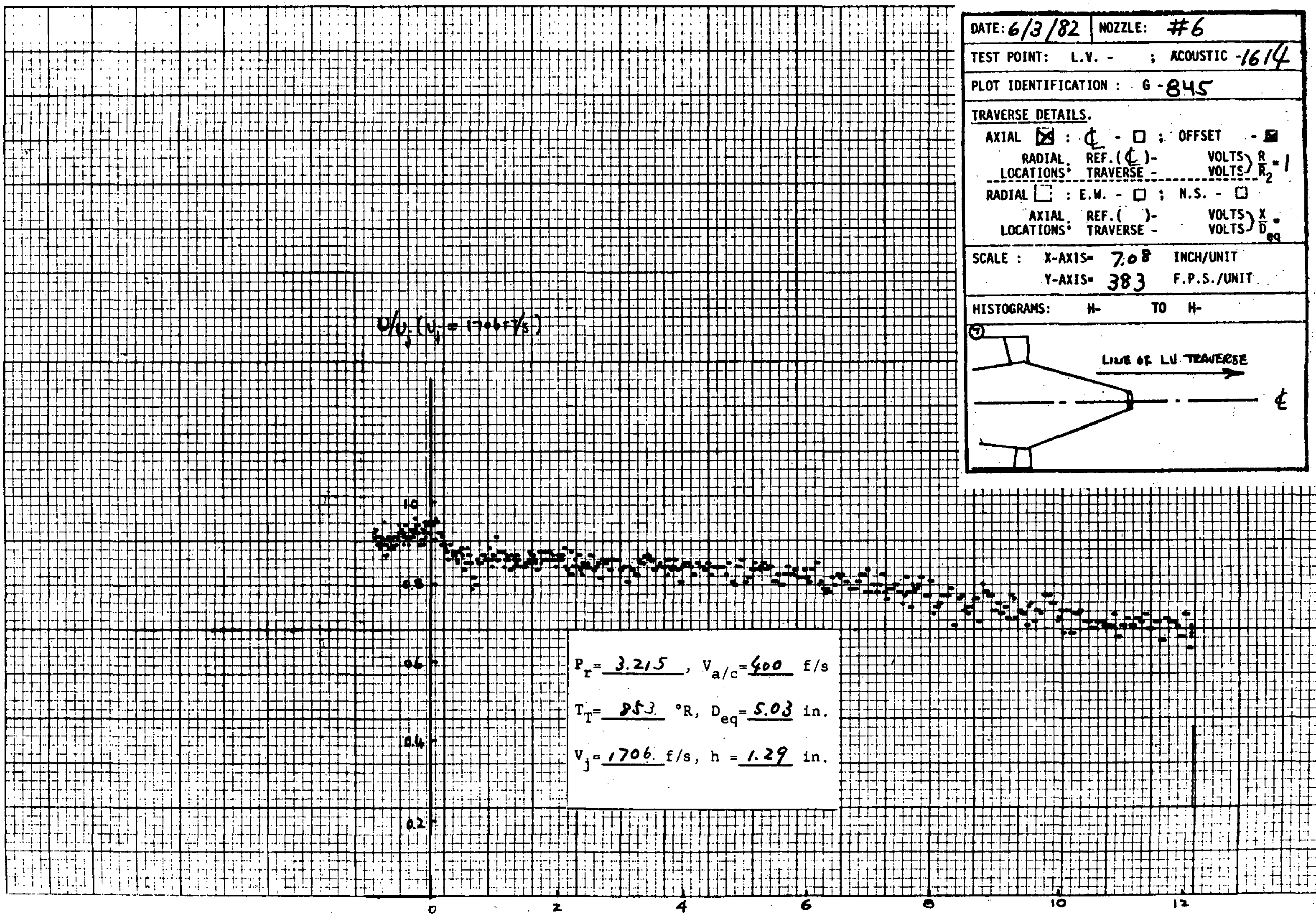

DATE: 6/3/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC -1614
PLOT IDENTIFICATION : G-845
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☒
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R2 = 1
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 7.08 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT
HISTOGRAMS: H- TO H-
LINE OF LV TRAVERSE
℄
U/Uj (Vj = 1706 f/s)
1.0
0.8
0.6
0.4
0.2
0
2
4
6
8
10
12
AXIAL DISTANCE : X/D
Pr = 3.215, Va/c = 400 f/s
TT = 853 °R, Deq = 5.03 in.
Vj = 1706 f/s, h = 1.29 in.

DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 846

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

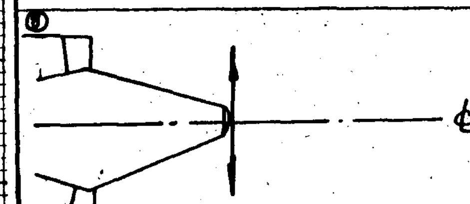
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

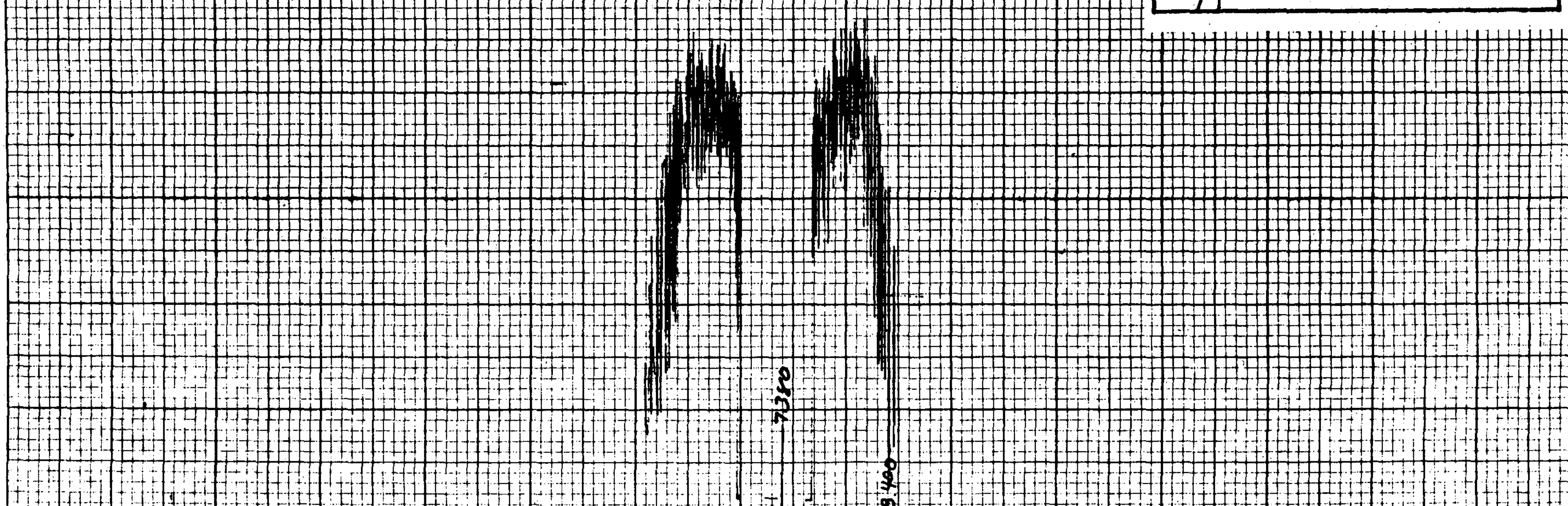
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ = 0

SCALE : X-AXIS= 3.82 INCH/UNIT

Y-AXIS= 303 F.P.S./UNIT

HISTOGRAMS: H- TO H-





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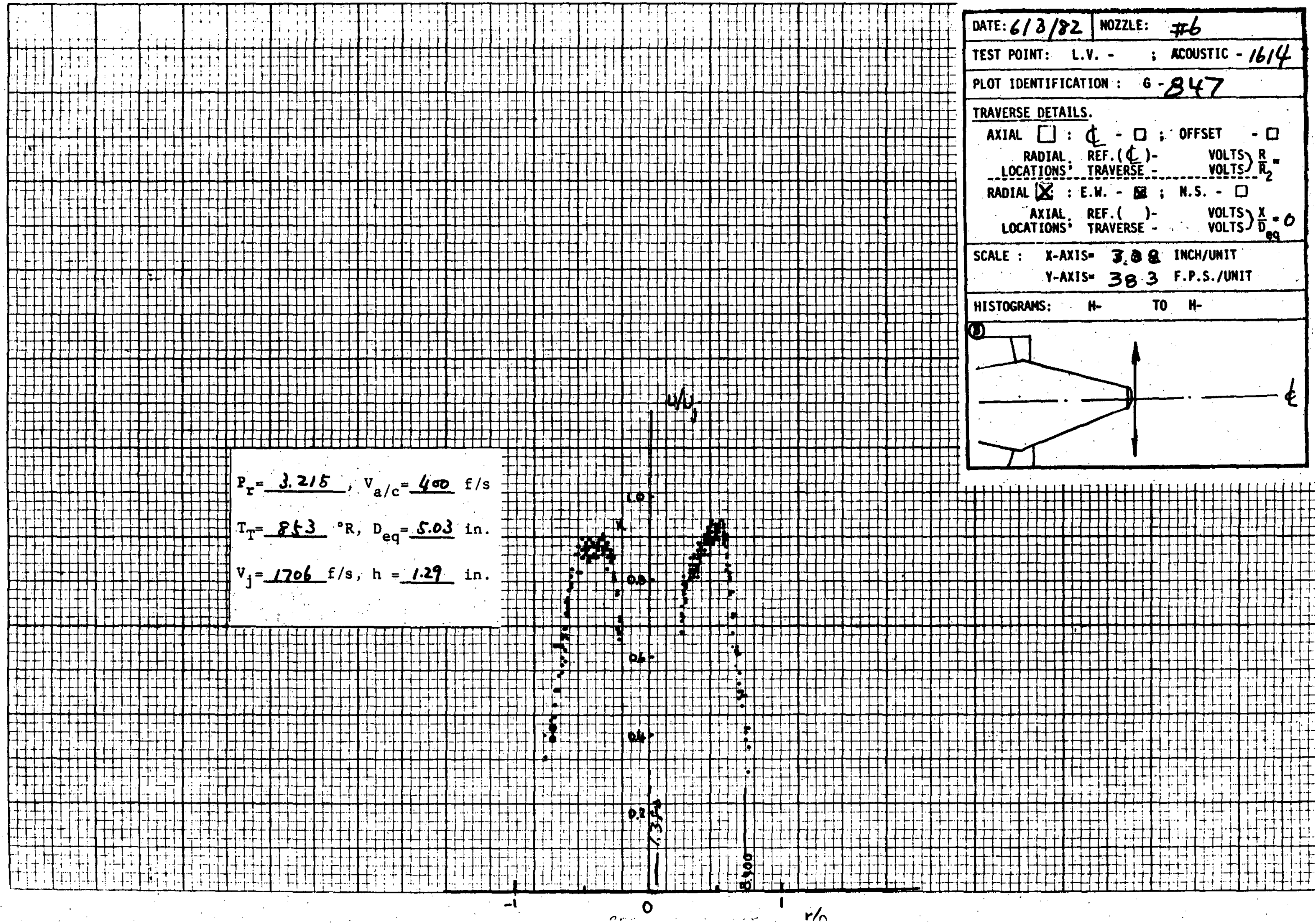
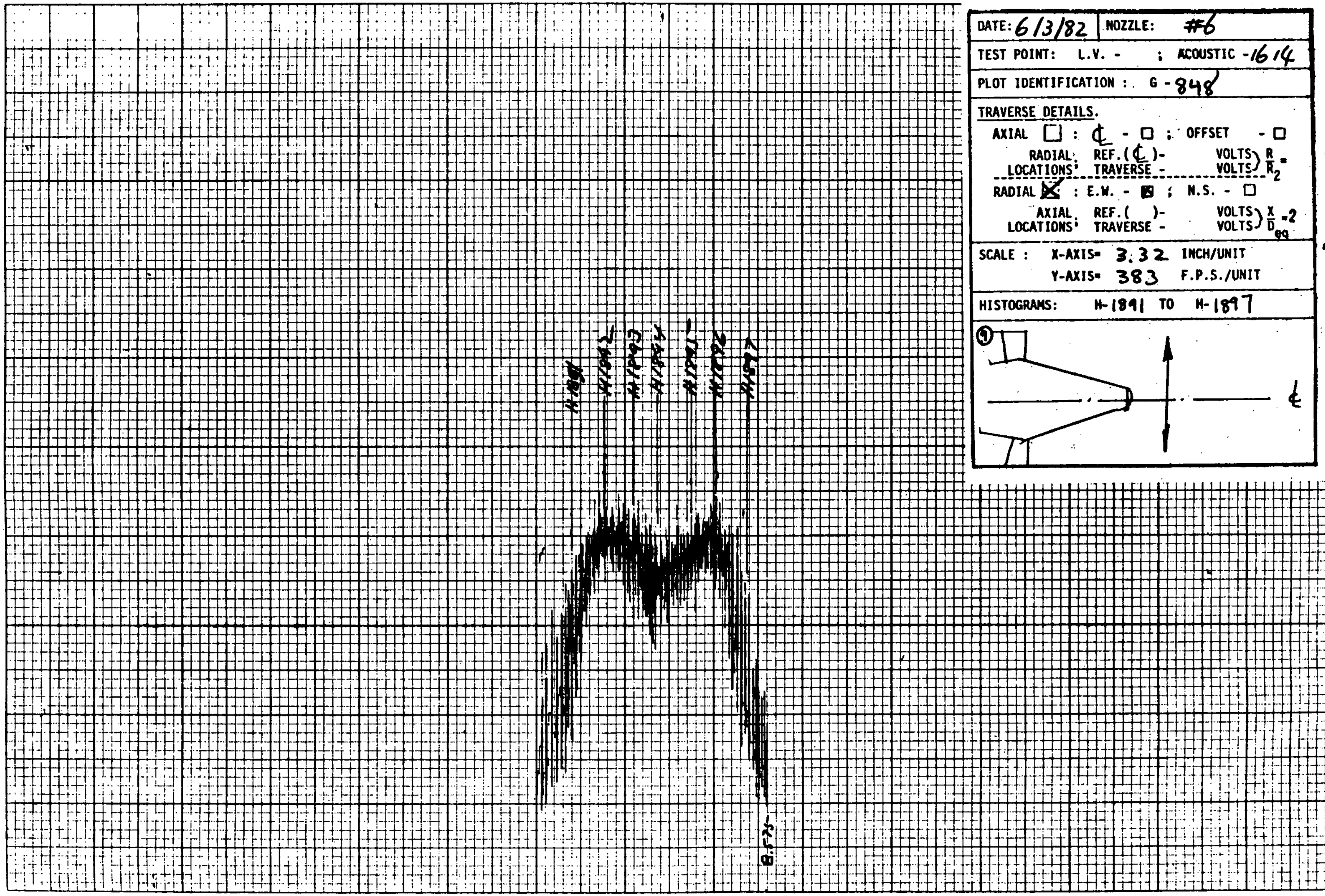
NO. XY 1101

1337


DATE: 6/3/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614
PLOT IDENTIFICATION : G - 847
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS $\frac{R}{R_2}$=
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS $\frac{X}{D_{eq}}$ = 0
SCALE : X-AXIS= 3.88 INCH/UNIT
Y-AXIS= 38.3 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
P_r= 3.215 , $V_{a/c}$= 400 f/s
T_T= 853 °R, D_{eq}= 5.03 in.
V_j= 1706 f/s, h = 1.29 in.
u/U_j
1.0
0.8
0.6
0.4
0.2
-1
0
1
r/h



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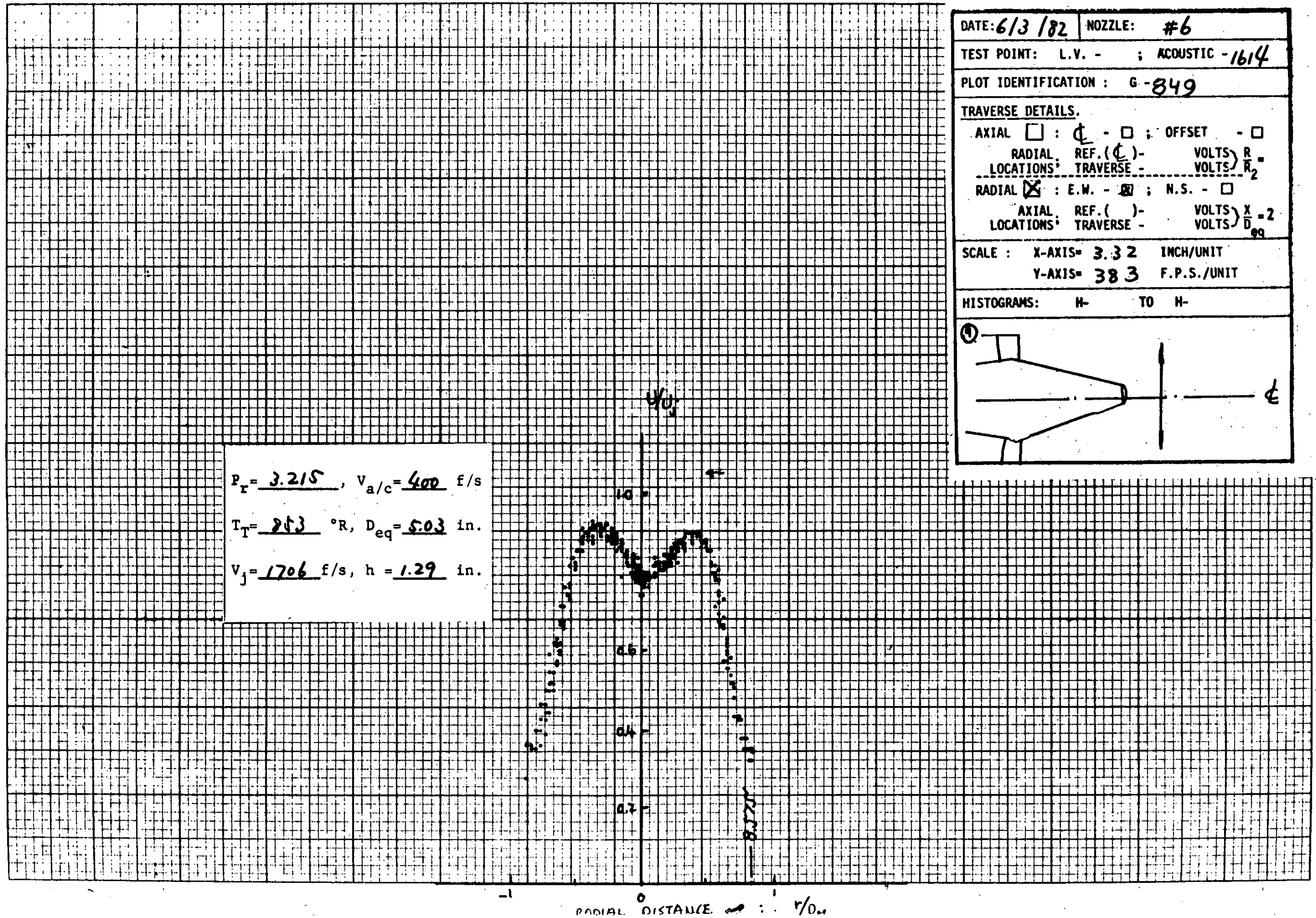
1339

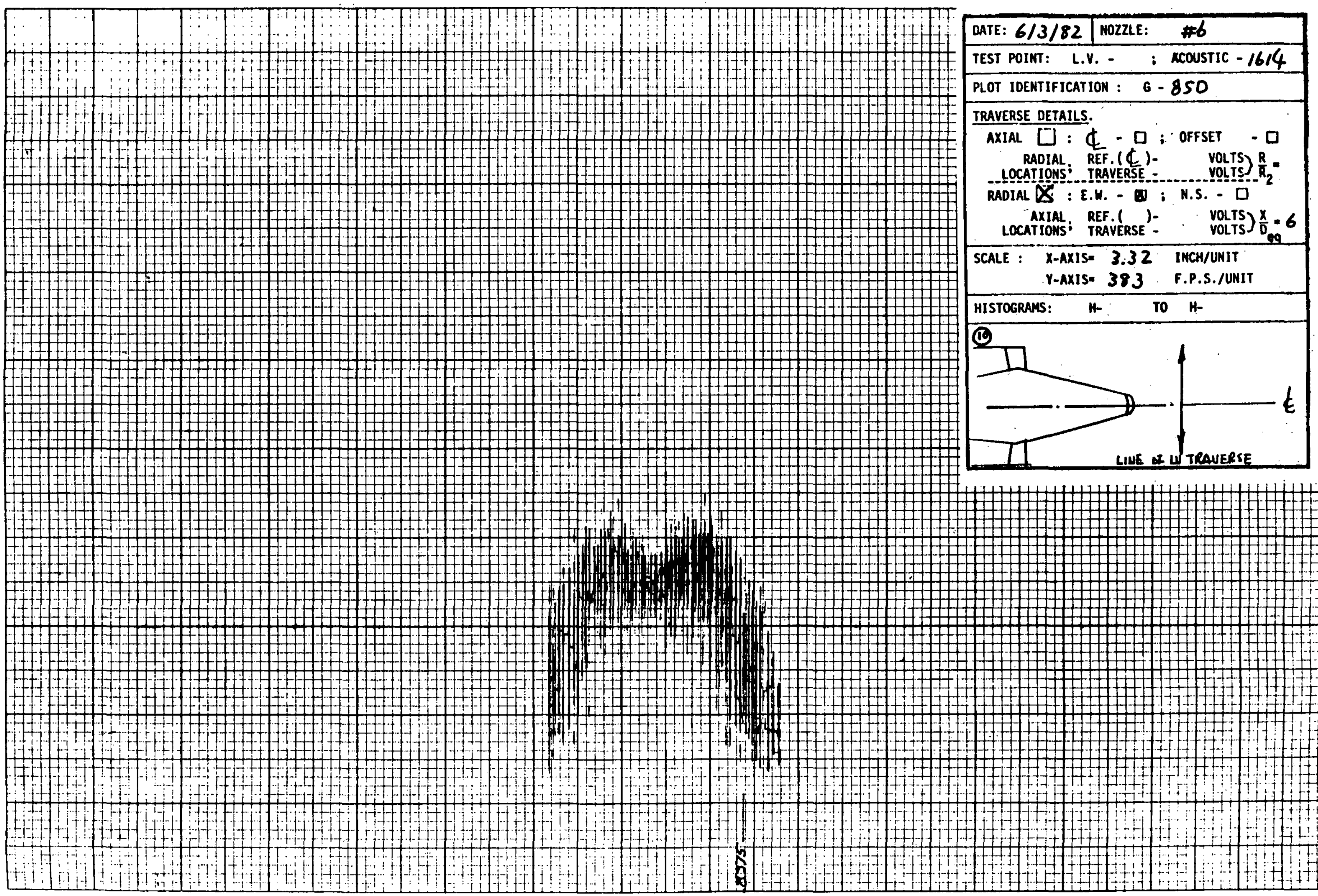
RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK PRINTED IN U.S.A.


DATE: 6/3/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614
PLOT IDENTIFICATION : G - 849
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS VOLTS R/R2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS VOLTS X/Deq = 2
SCALE : X-AXIS = 3.32 INCH/UNIT
Y-AXIS = 383 F.P.S./UNIT
HISTOGRAMS: H- TO H-
℄
Pr = 3.215, Va/c = 400 f/s
TT = 853 °R, Deq = 5.03 in.
Vj = 1706 f/s, h = 1.29 in.
U/Uj
1.0
0.6
0.4
0.2
-1
0
1
RADIAL DISTANCE : r/Deq

NO. XY 1101

1341

RECORDING CHARTS
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
PRINTED IN U.S.A.



DATE: 6/3/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 850

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- VOLTS TRAVERSE - VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- VOLTS TRAVERSE - VOLTS $\frac{X}{D_{eq}}$ = 6

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-

(10)

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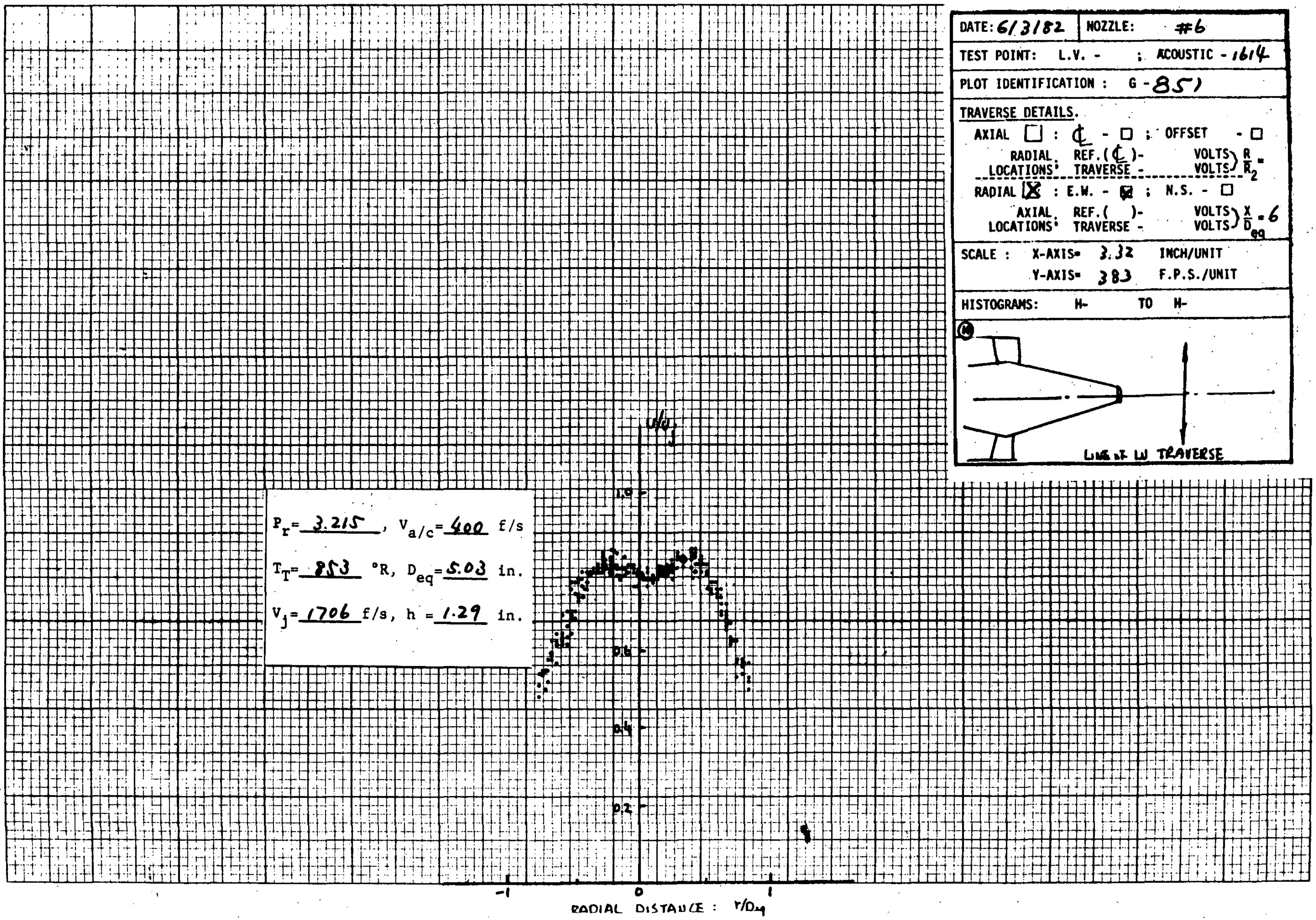


1342

NO. XY 1101

RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK PRINTED IN U.S.A.

ORIGINAL PAGE IS OF POOR QUALITY

DATE: 6/3/82	NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 852

TRAVERSE DETAILS.

AXIAL ☐ : ₵ - ☐ ; OFFSET - ☐

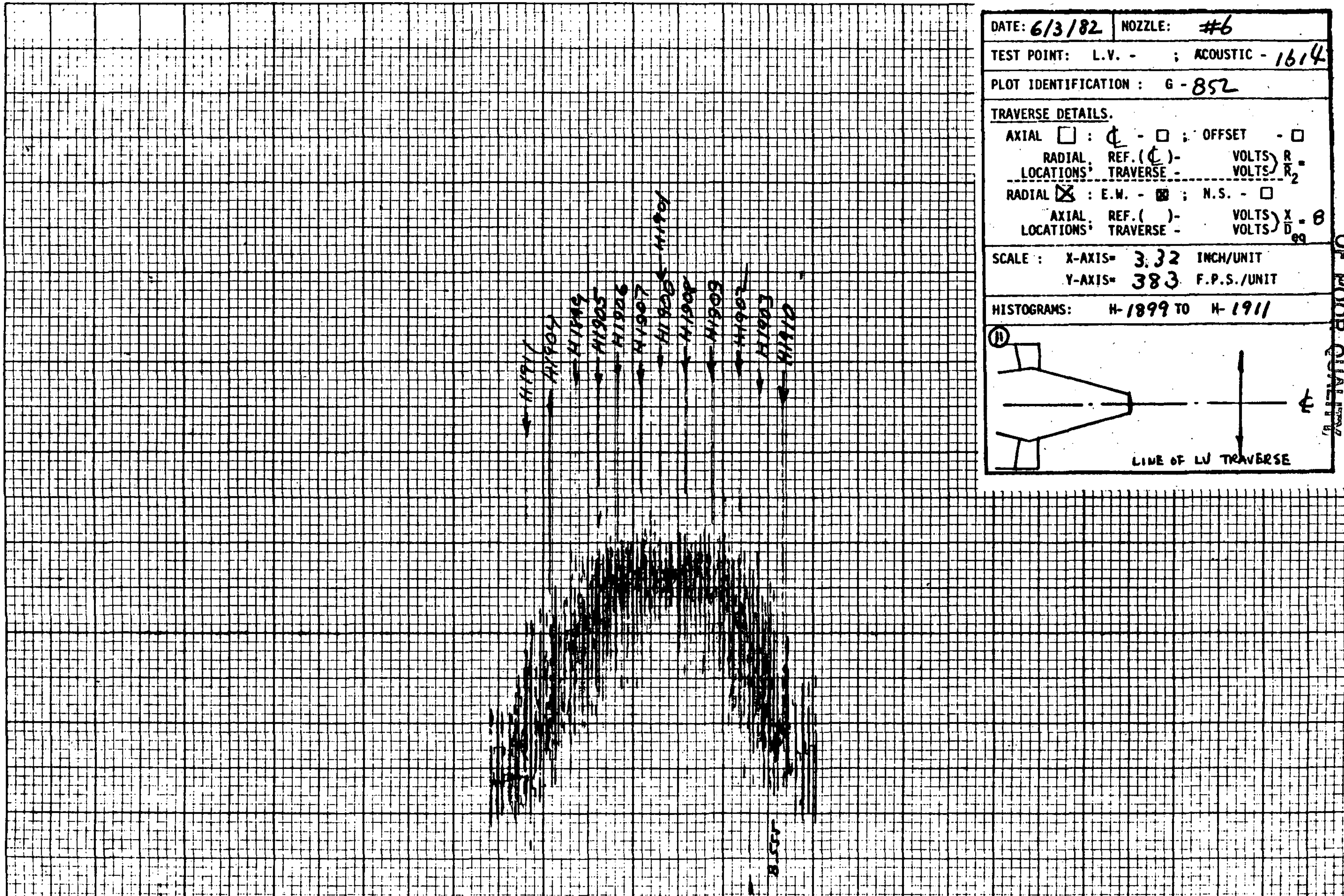
RADIAL LOCATIONS: REF.(₵)- TRAVERSE - VOLTS/VOLTS } $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS } $\frac{X}{D_{eq}}$ = 8

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H-1899 TO H-1911



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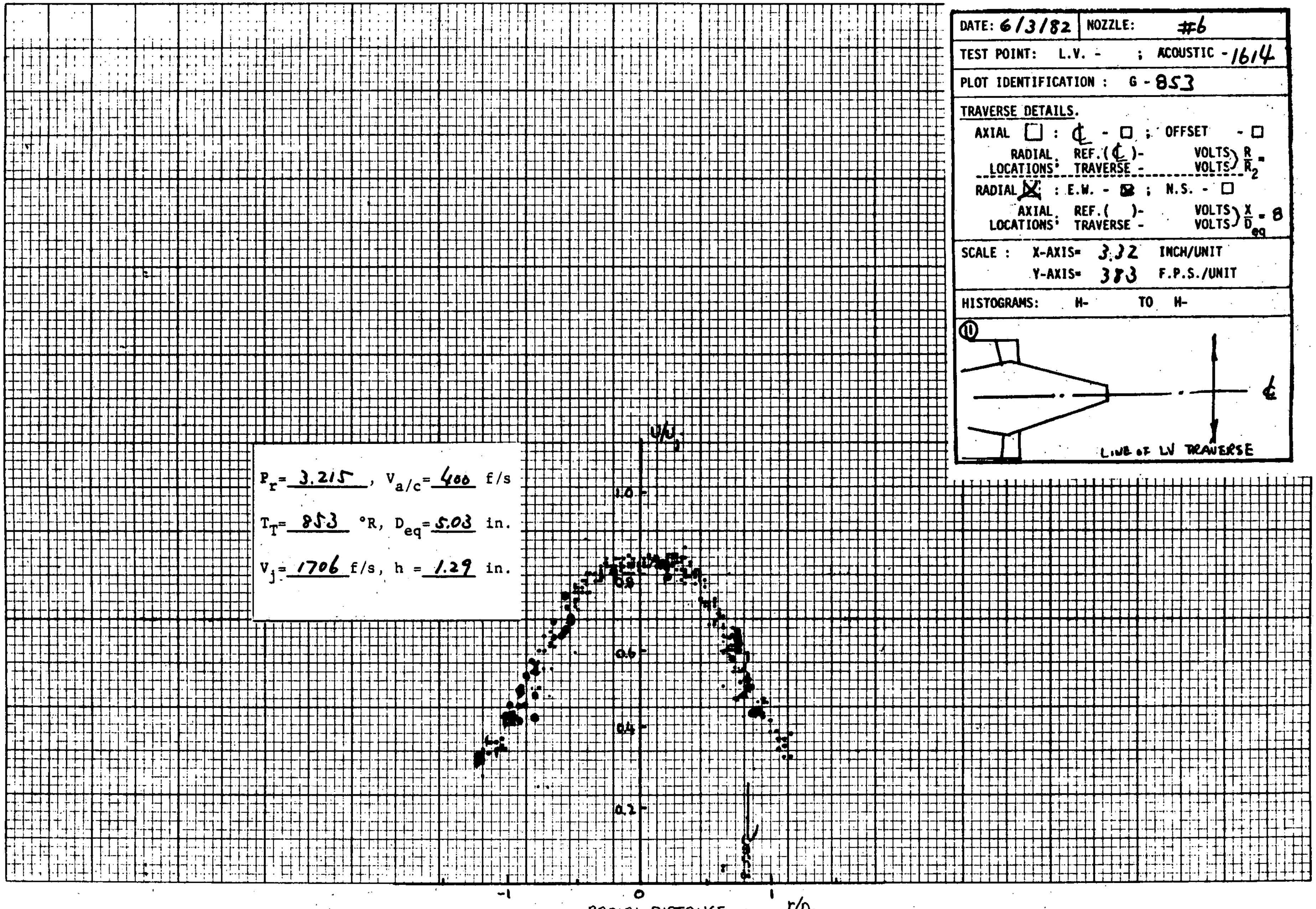
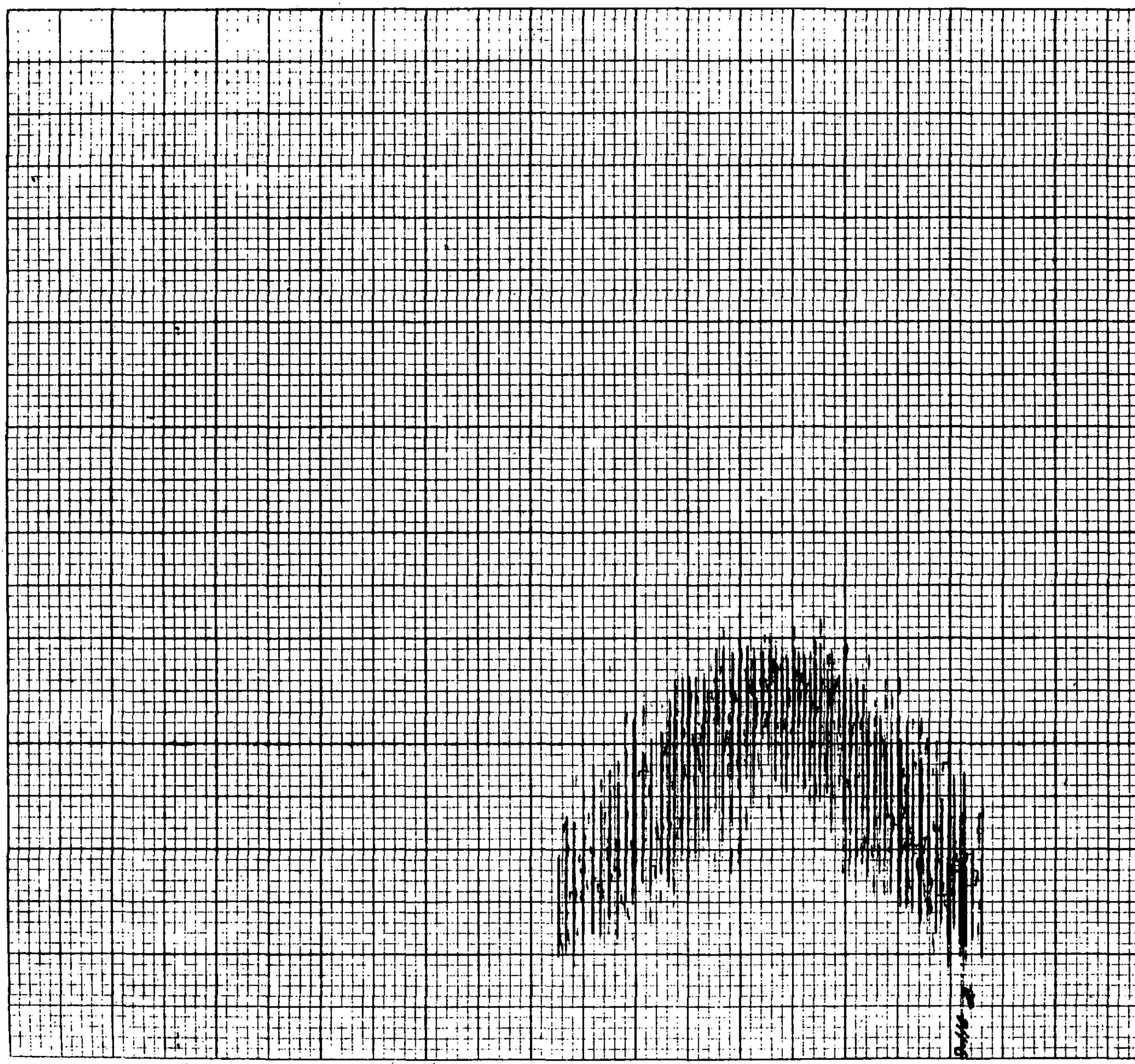

DATE: 6/3/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614
PLOT IDENTIFICATION : G - 853
TRAVERSE DETAILS.
AXIAL : ℄ - ; OFFSET -
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS R VOLTS R2 =
RADIAL : E.W. - ; N.S. -
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS X VOLTS Deq = 8
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT
HISTOGRAMS: H- TO H-
1
℄
LINE OF LV TRAVERSE
Pr = 3.215 , Va/c = 400 f/s
TT = 853 °R, Deq = 5.03 in.
Vj = 1706 f/s, h = 1.29 in.
U/Uj
1.0
0.8
0.6
0.4
0.2
-1
0
1
RADIAL DISTANCE : r/Deq



DATE: 6/3/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614	
PLOT IDENTIFICATION : G - 854	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS) $\frac{R}{R_2}$ =

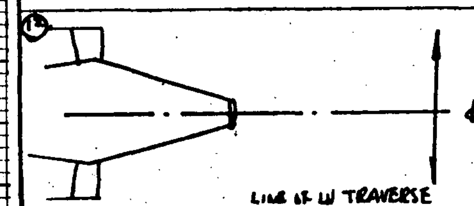
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS) $\frac{X}{D_{eq}}$ = 12

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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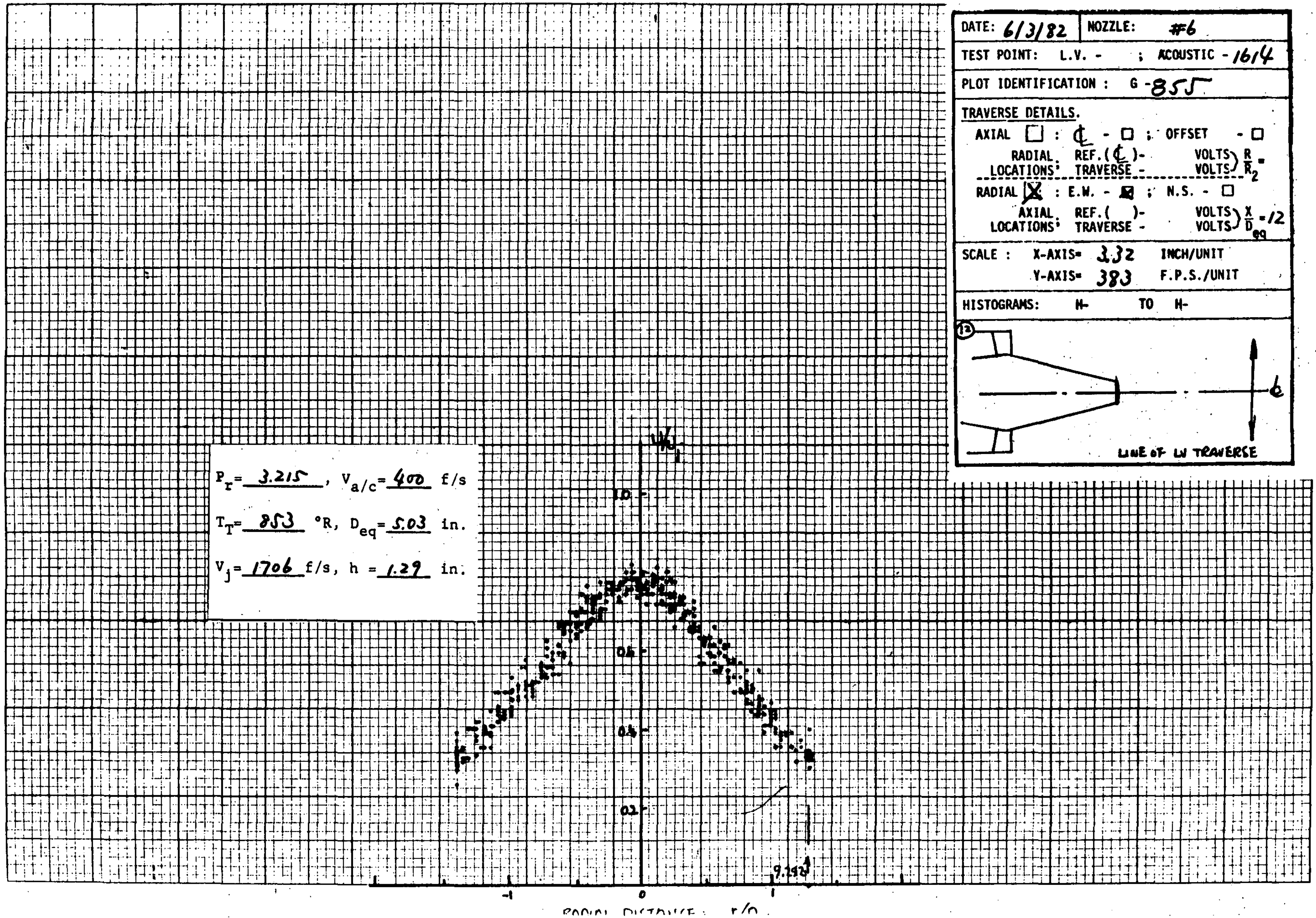

DATE: 6/3/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614
PLOT IDENTIFICATION : G-855
TRAVERSE DETAILS.
AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} = 12
SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT
HISTOGRAMS: H- TO H-
12
℄
LINE OF LV TRAVERSE
P_r = 3.215, $V_{a/c}$ = 400 f/s
T_T = 853 °R, D_{eq} = 5.03 in.
V_j = 1706 f/s, h = 1.29 in.
V/V_j
1.0
0.8
0.6
0.4
0.2
-1
0
1
9.242
RADIAL DISTANCE : r/D

DATE: 6/3/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC -1614	
PLOT IDENTIFICATION : G - 856	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

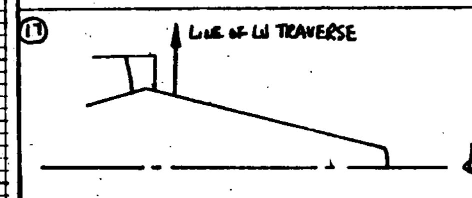
RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS) VOLTS) $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS) VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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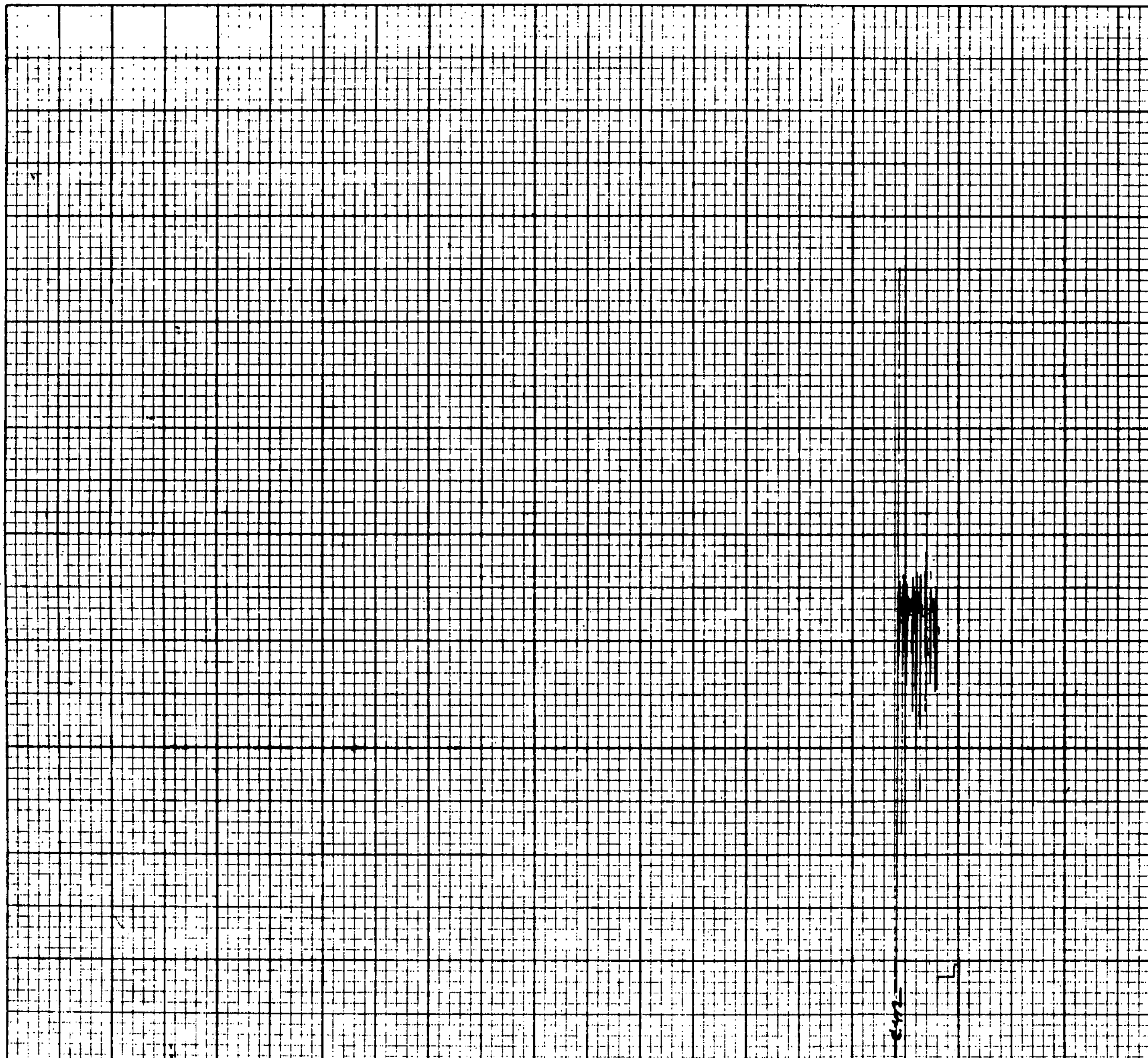


DATE: 6/3/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614	
PLOT IDENTIFICATION : G - 857	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS; REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS; REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-

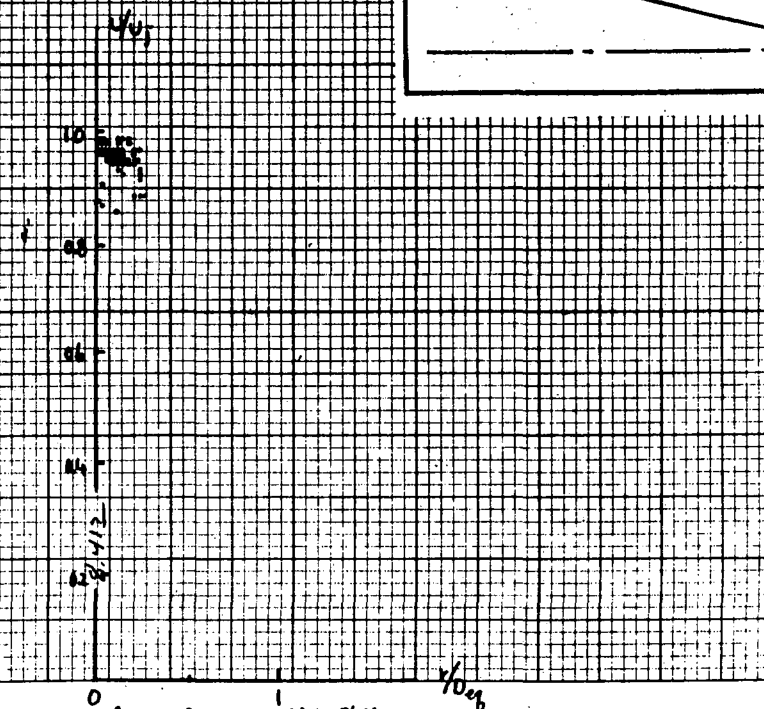
(17) LINE OF LV TRAVERSE

℄

P_r= 3.215 , $V_{a/c}$= 400 f/s

T_T= 853 °R, D_{eq}= 5.03 in.

V_j= 1706 f/s, h = 1.29 in.



1348

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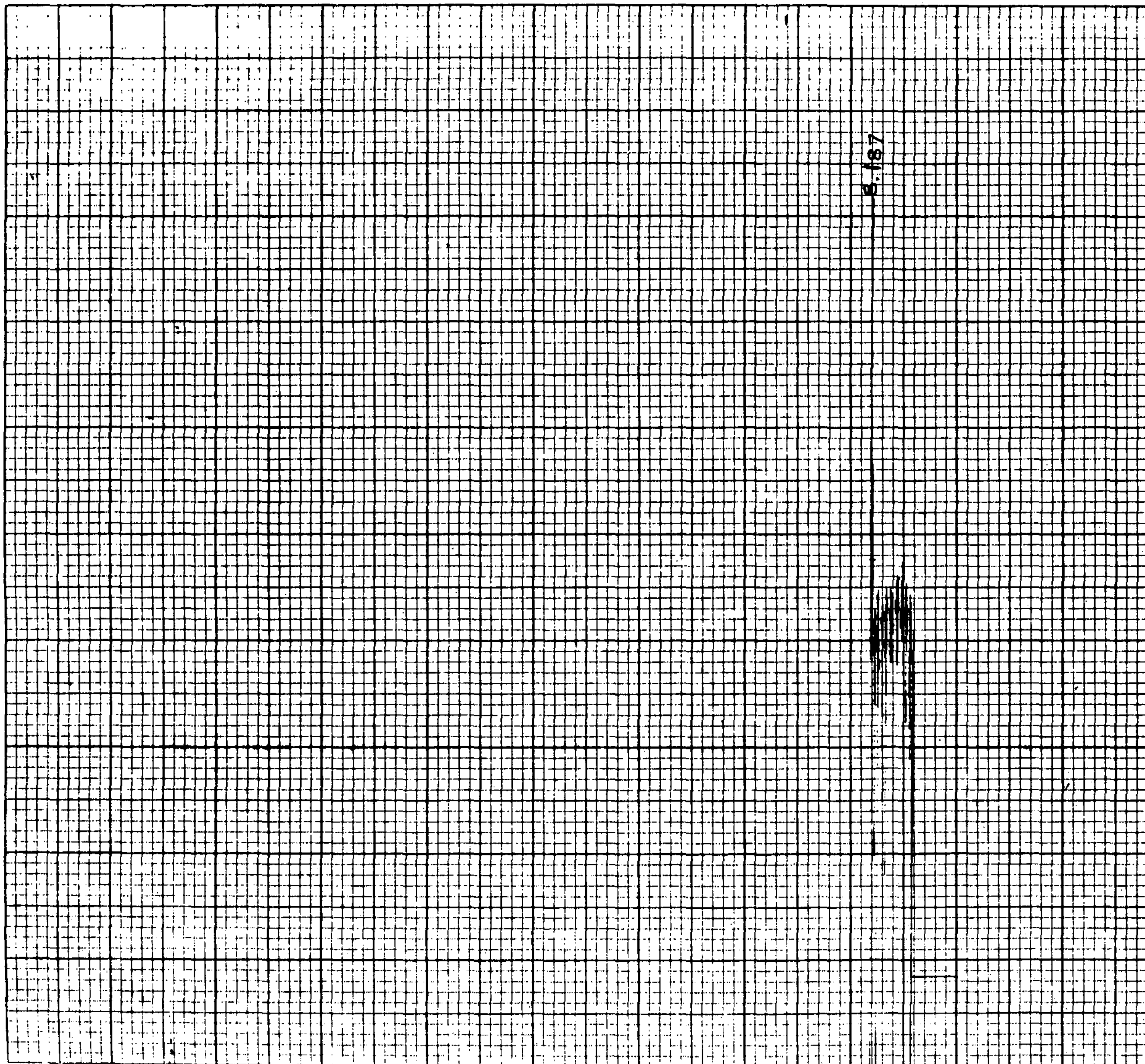


DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 858

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

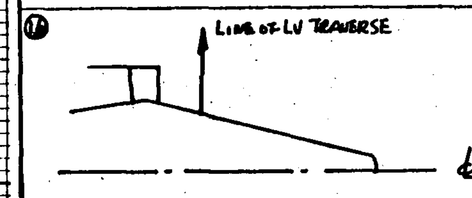
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{99} =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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1349

DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC -1614

PLOT IDENTIFICATION : G-859

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

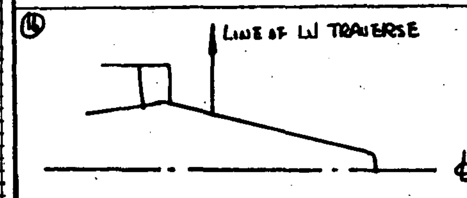
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 332 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

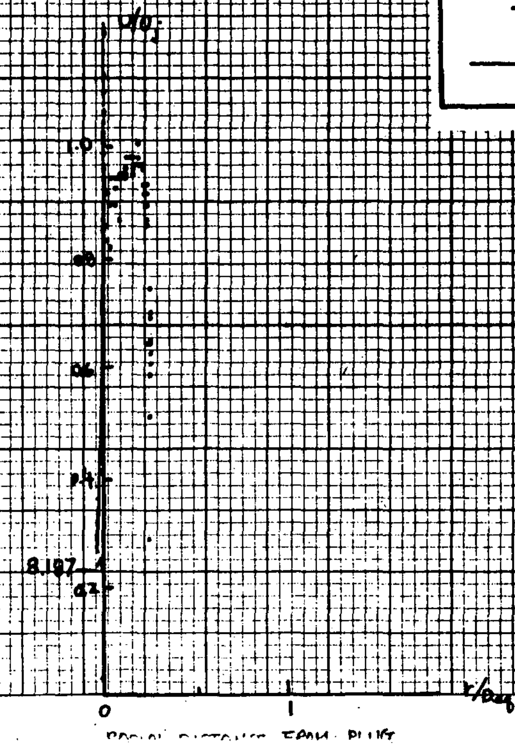
HISTOGRAMS: H- TO H-



P_r = 3.215 , $V_{a/c}$ = 400 f/s

T_T = 853 °R, D_{eq} = 5.03 in.

V_j = 1706 f/s, h = 1.29 in.



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1351

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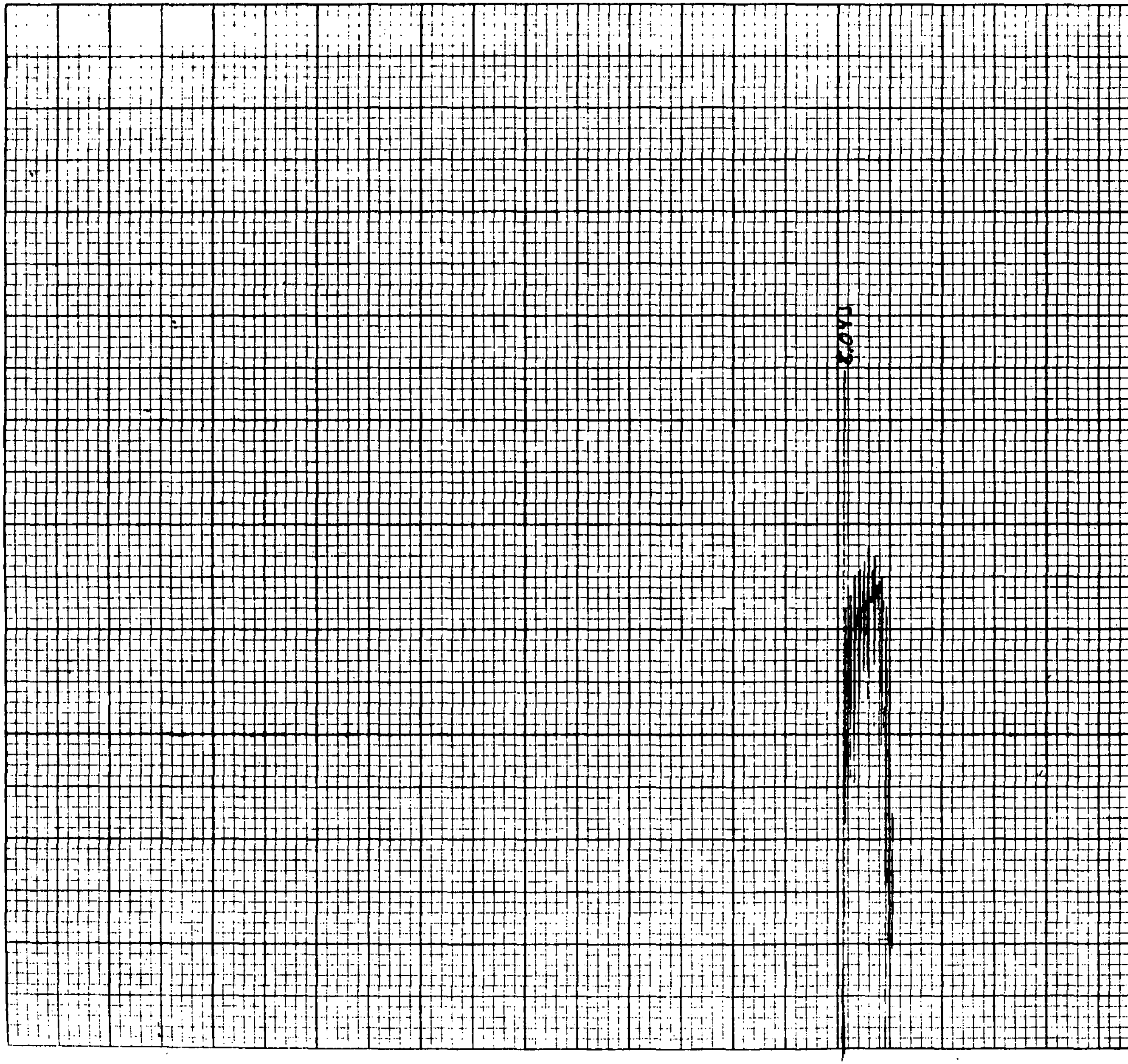


DATE: 6/3/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614	
PLOT IDENTIFICATION : G - 860	

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

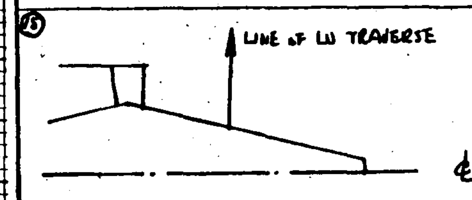
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

RADIAL ☒ : E.W. - ☑ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS X/D_{99} =

SCALE : X-AXIS= 3.32 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-



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DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 861

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄) - TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

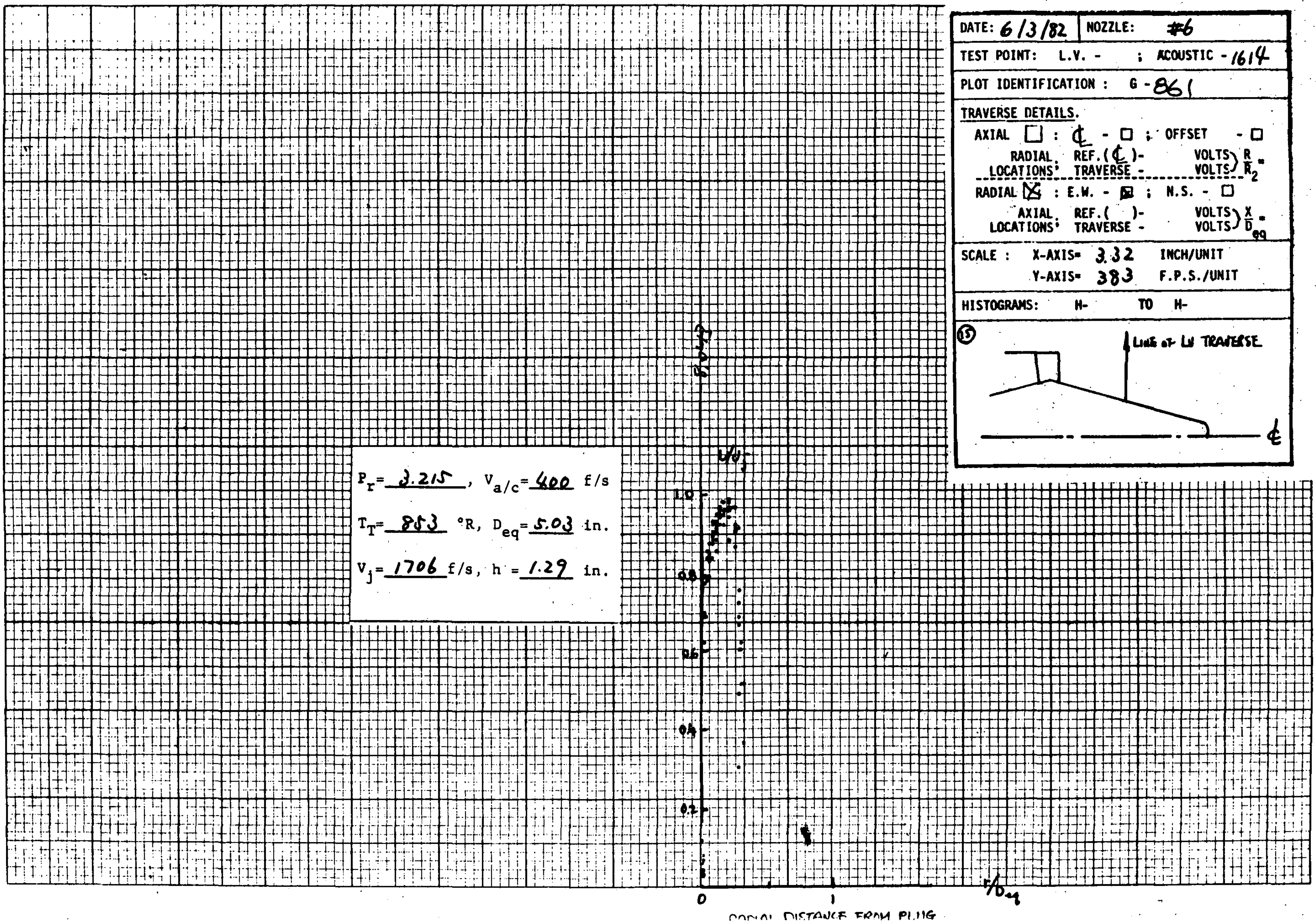
RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( ) - TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-



P_r = 3.215 , $V_{a/c}$ = 400 f/s

T_T = 853 °R, D_{eq} = 5.03 in.

V_j = 1706 f/s, h = 1.29 in.

1352

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1353

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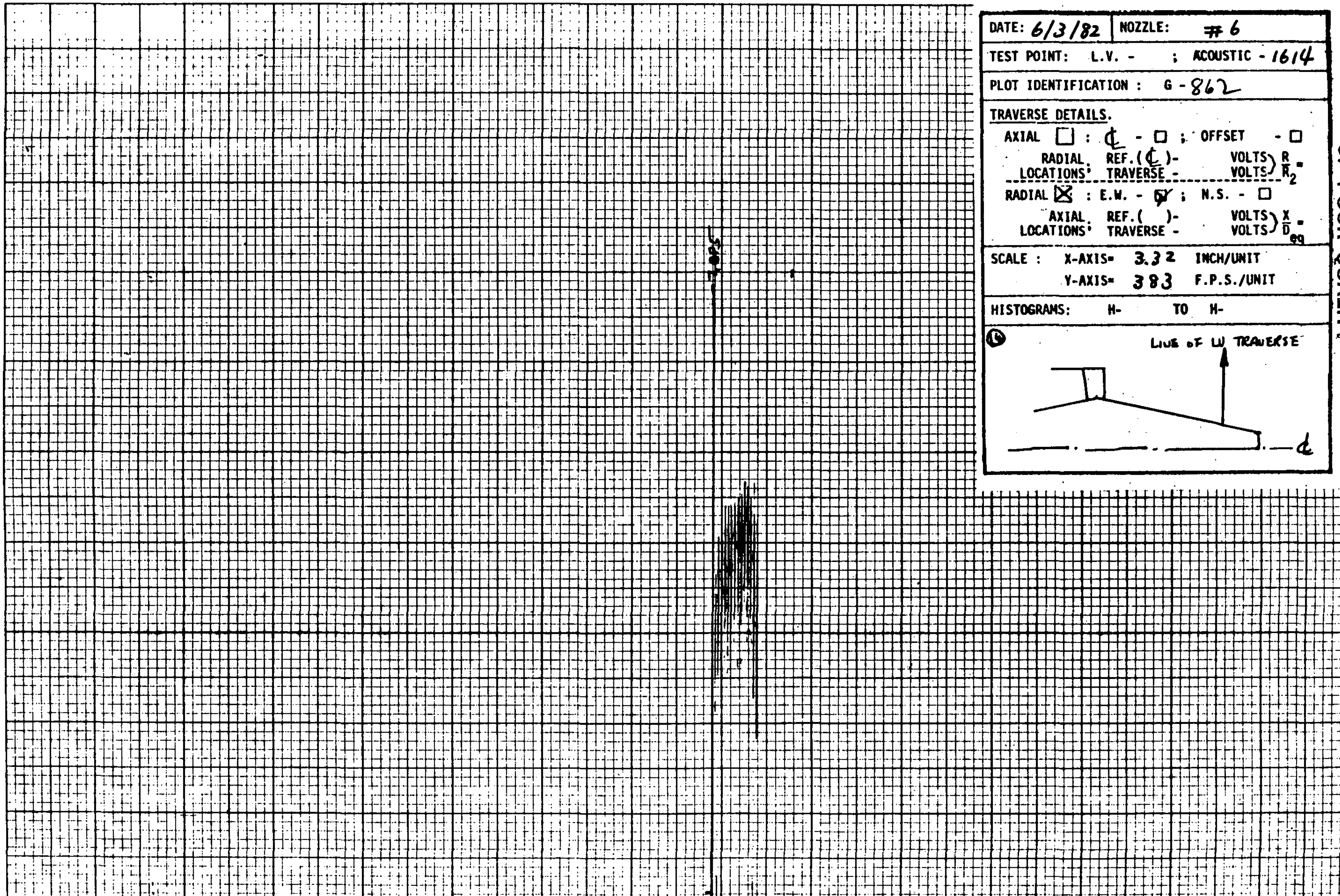


DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 862

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS) R/R_2 =

RADIAL ☒ : E.W. - ☑ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS) X/D_{eq} =

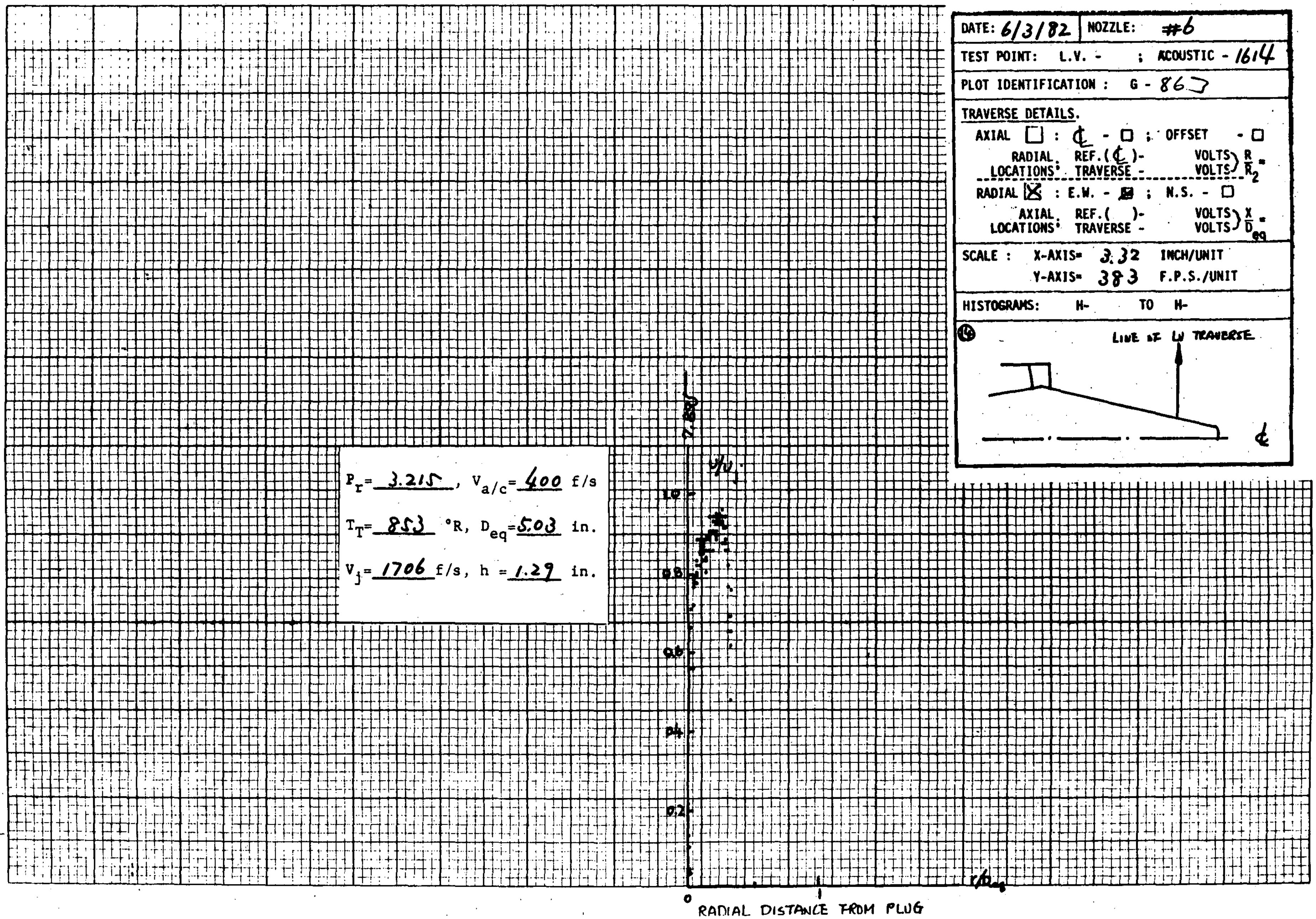
SCALE : X-AXIS= 3.32 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-

LINE OF LV TRAVERSE

℄



1354

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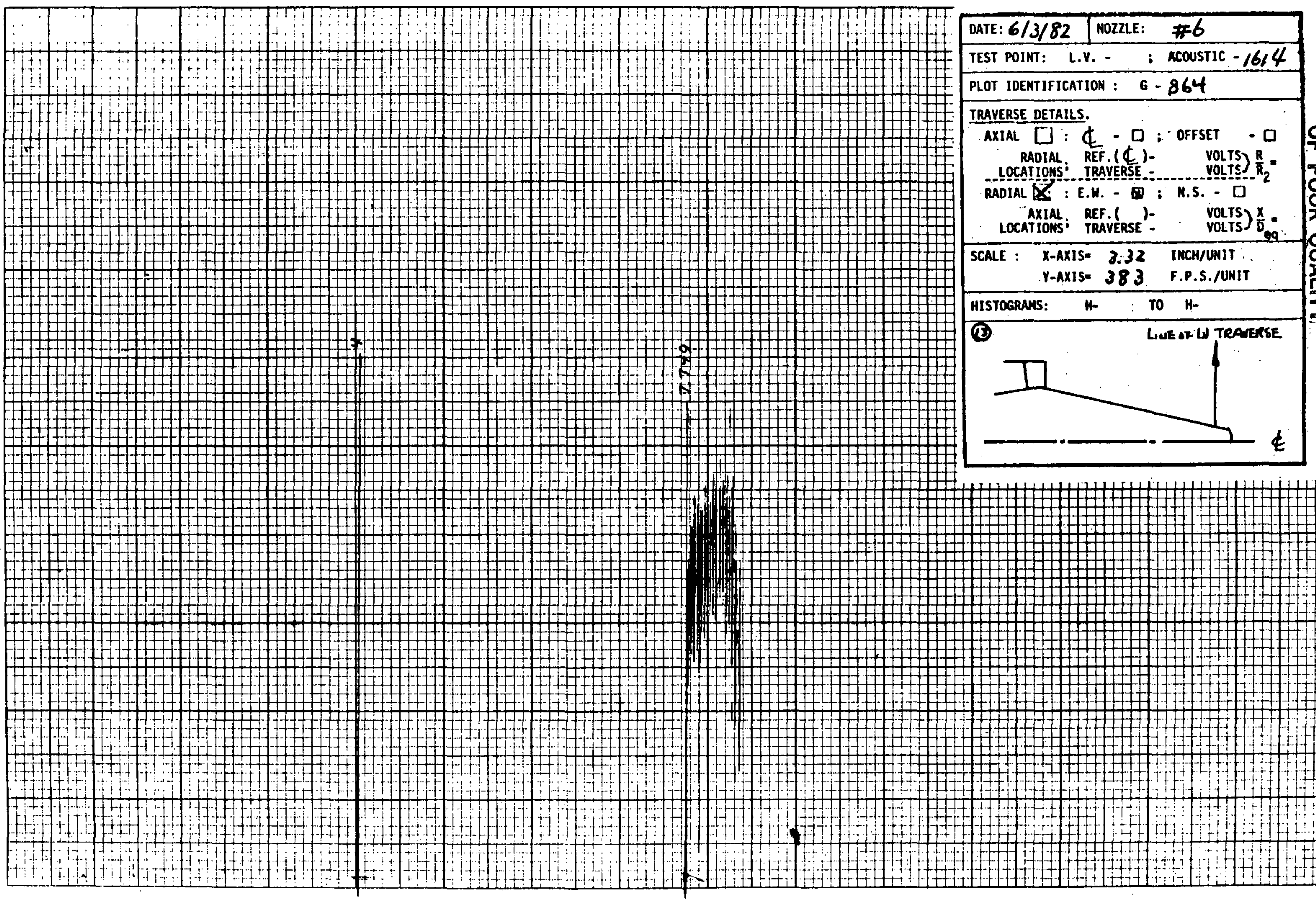


DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 864

TRAVERSE DETAILS.

AXIAL ☐ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☒ : E.W. - ☒ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.32 INCH/UNIT

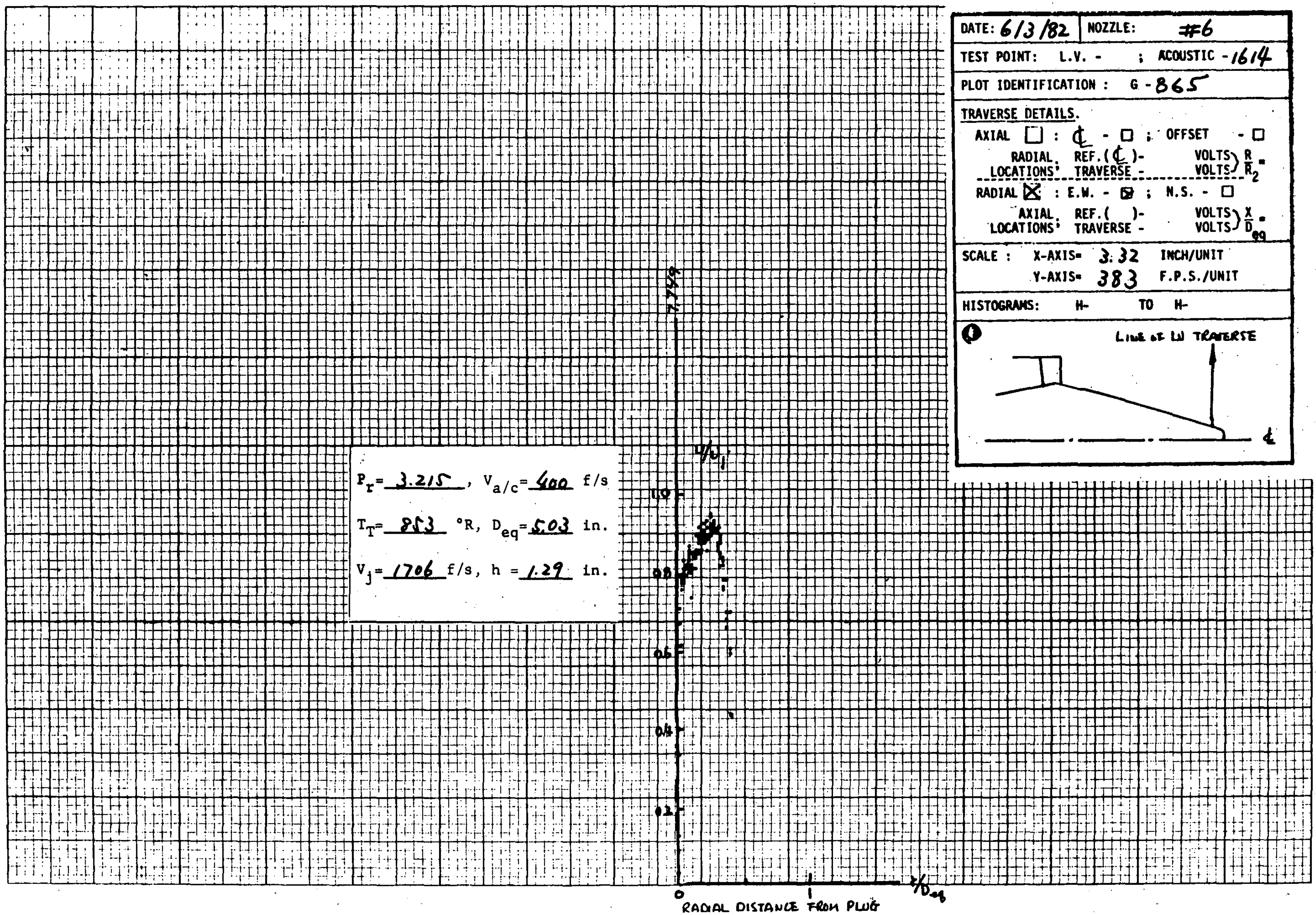
Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-

(23)

LINE OF LV TRAVERSE

℄



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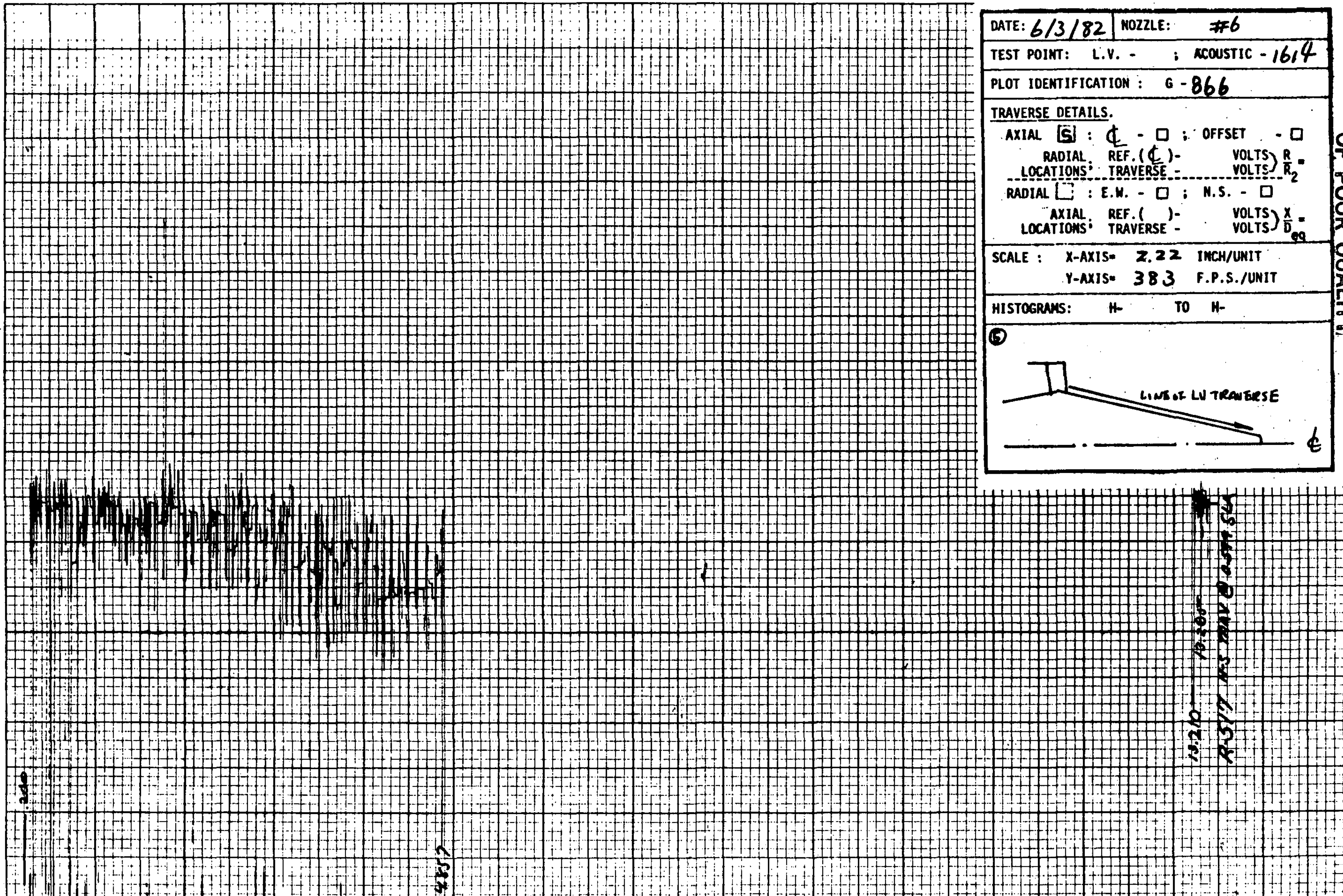

DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 866

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-

(5)

LINE OF LV TRAVERSE

℄

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1357

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1358

DATE: 6/3/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614	
PLOT IDENTIFICATION : G - 867	

TRAVERSE DETAILS.

AXIAL [S] : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-

⑤

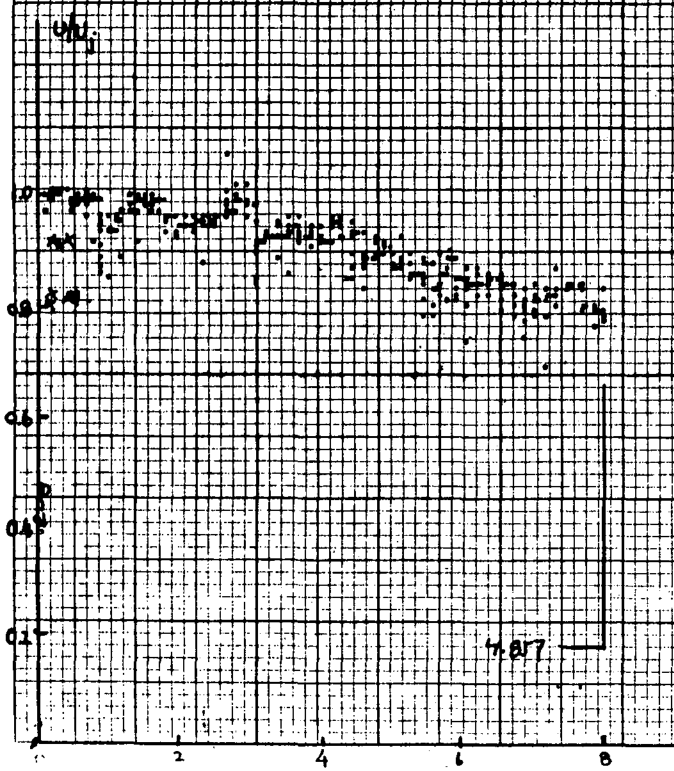
LINE OF LV TRAVERSE

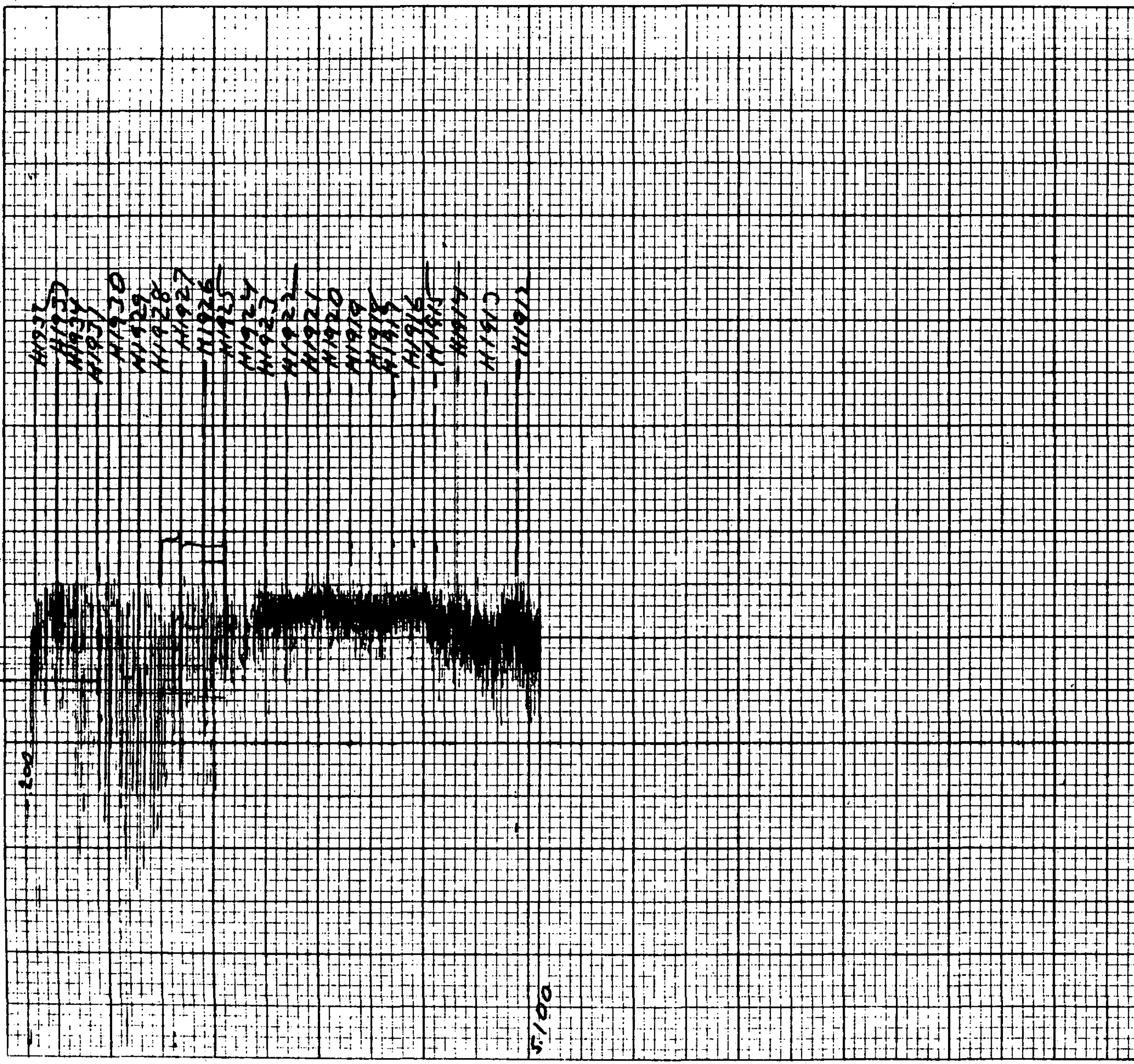
℄

P_r = 3.215, $V_{a/c}$ = 400 f/s

T_T = 853 °R, D_{eq} = 5.03 in.

V_j = 1706 f/s, h = 1.29 in.





DATE: 6/3/82 NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 868

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS $\frac{R}{R_2}$ =

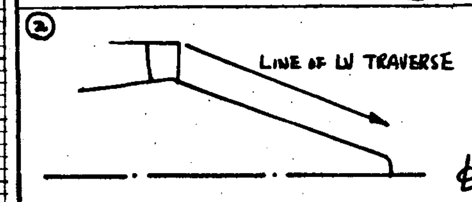
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H-1912 TO H-1932



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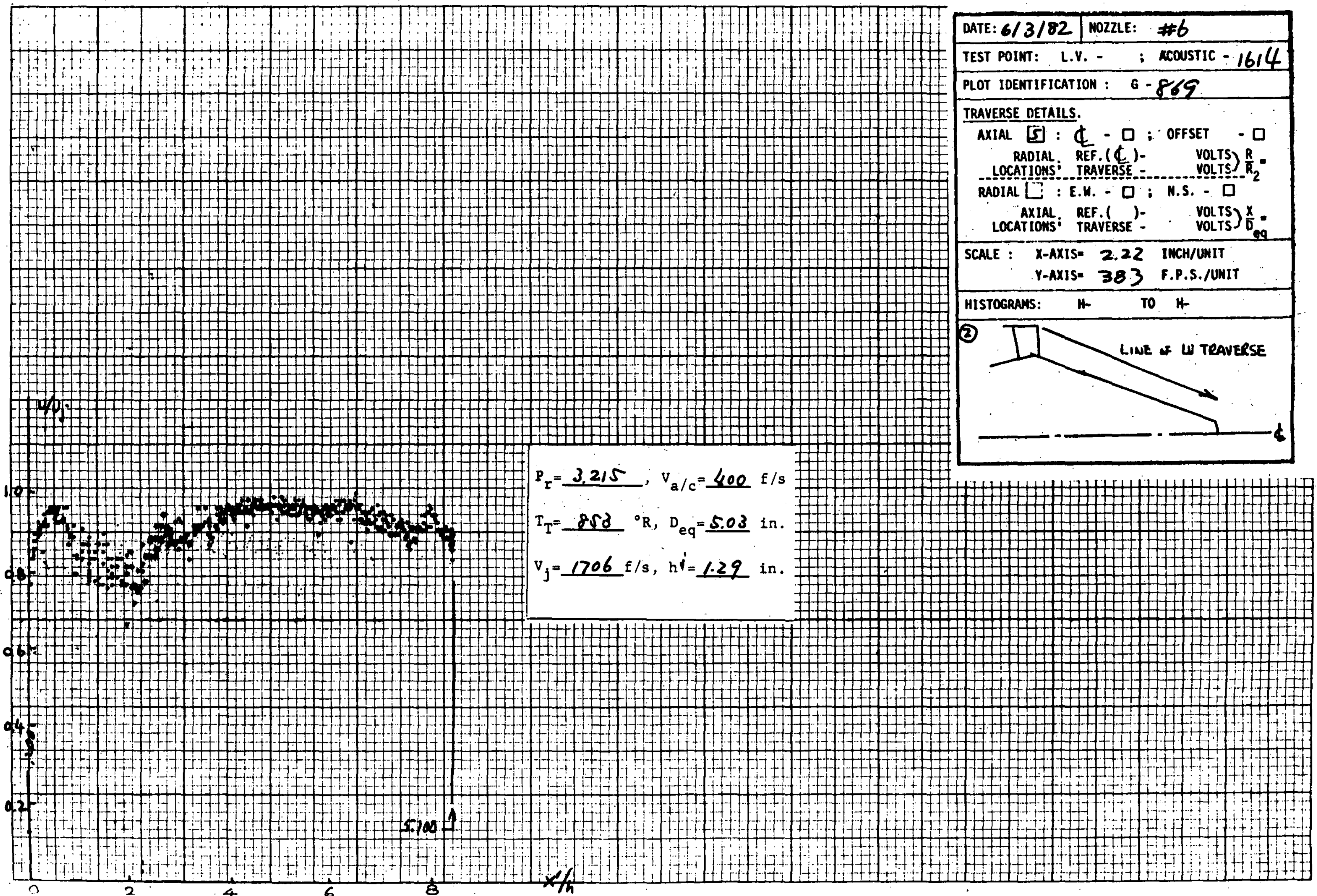
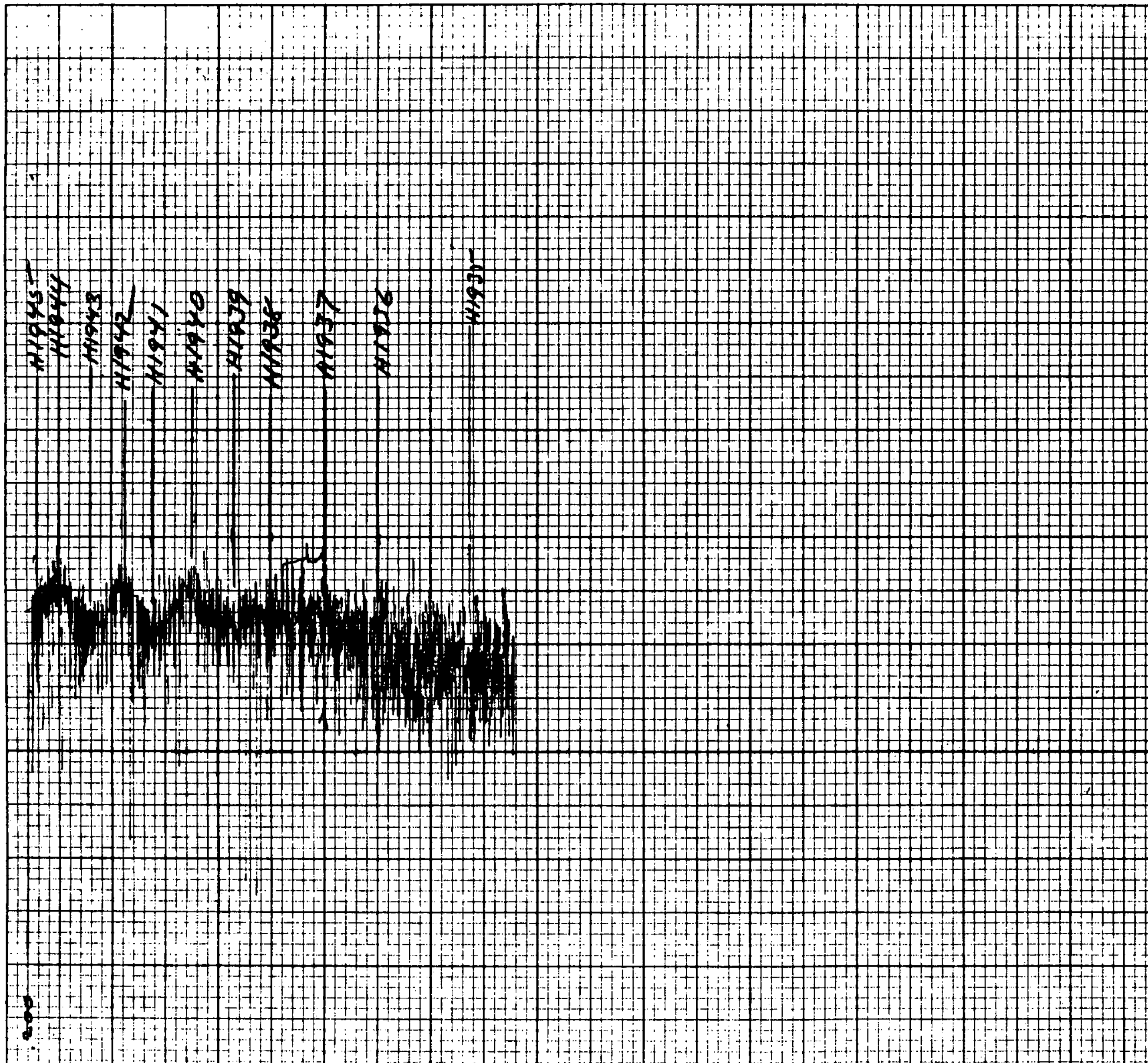

DATE: 6/3/82
NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614
PLOT IDENTIFICATION : G - 869
TRAVERSE DETAILS.
AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐
RADIAL LOCATIONS: REF.(℄)-TRAVERSE - VOLTS/VOLTS R/R2 =
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐
AXIAL LOCATIONS: REF.( )-TRAVERSE - VOLTS/VOLTS X/Deq =
SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT
HISTOGRAMS: H- TO H-
②
LINE of LV TRAVERSE
℄
P_r = 3.215, $V_{a/c}$ = 400 f/s
T_T = 858 °R, D_{eq} = 5.03 in.
V_j = 1706 f/s, h = 1.29 in.
u/Vj
AXIAL MEAN VELOCITY
1.0
0.8
0.6
0.4
0.2
0
2
4
6
8
x/h
5.100



DATE: 6/3/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC - 1614	
PLOT IDENTIFICATION : G - 870	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

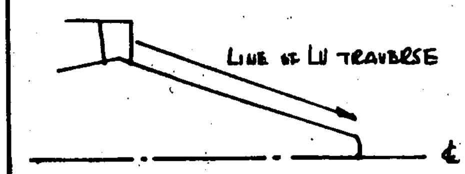
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS / VOLTS $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS / VOLTS $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H-1935 TO H-1945



DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC - 1614

PLOT IDENTIFICATION : G - 871

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF. (℄)- TRAVERSE - VOLTS/VOLTS R/R_2 =

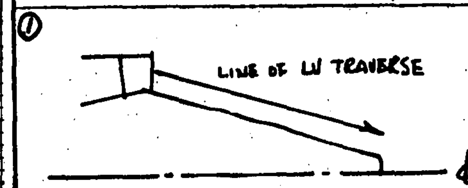
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF. ( )- TRAVERSE - VOLTS/VOLTS X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

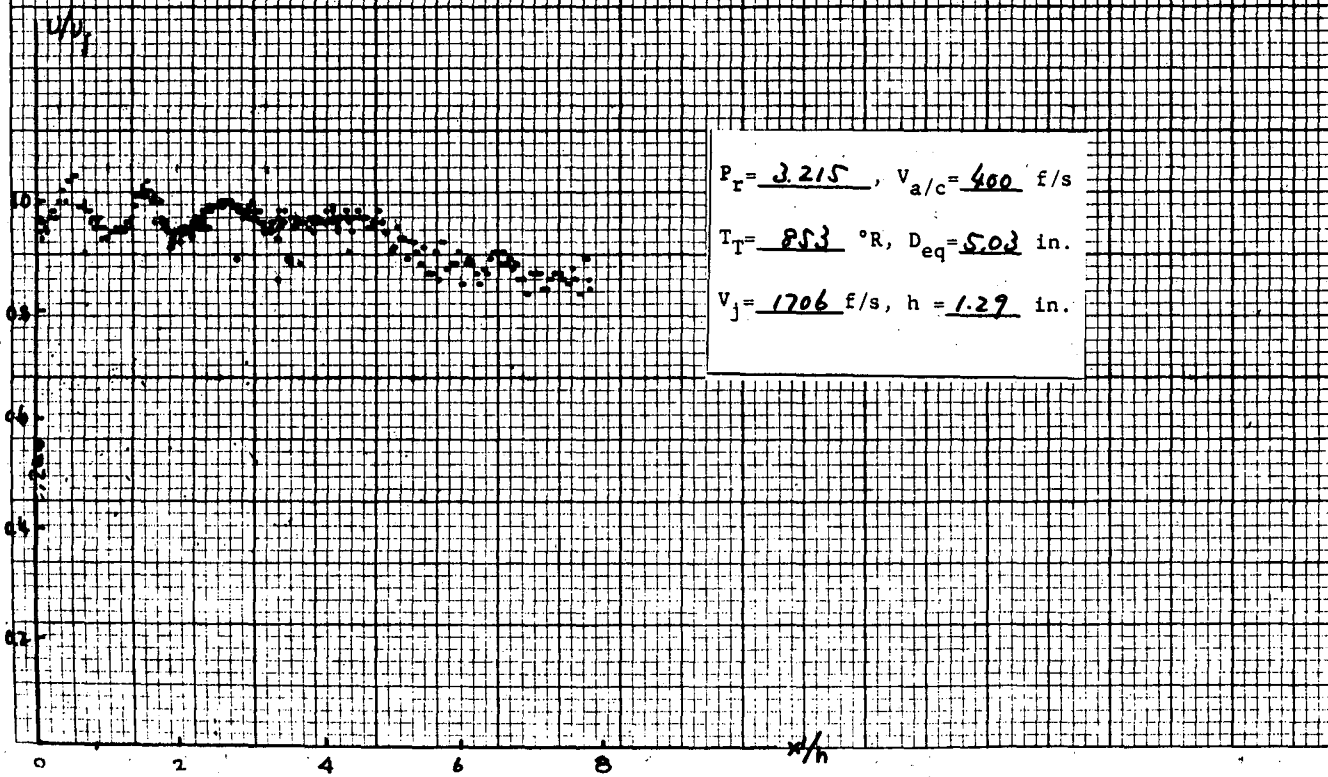
HISTOGRAMS: H-1935 TO H- 1945



P_r= 3.215 , $V_{a/c}$= 400 f/s

T_T= 853 °R, D_{eq}= 5.03 in.

V_j= 1706 f/s, h = 1.29 in.



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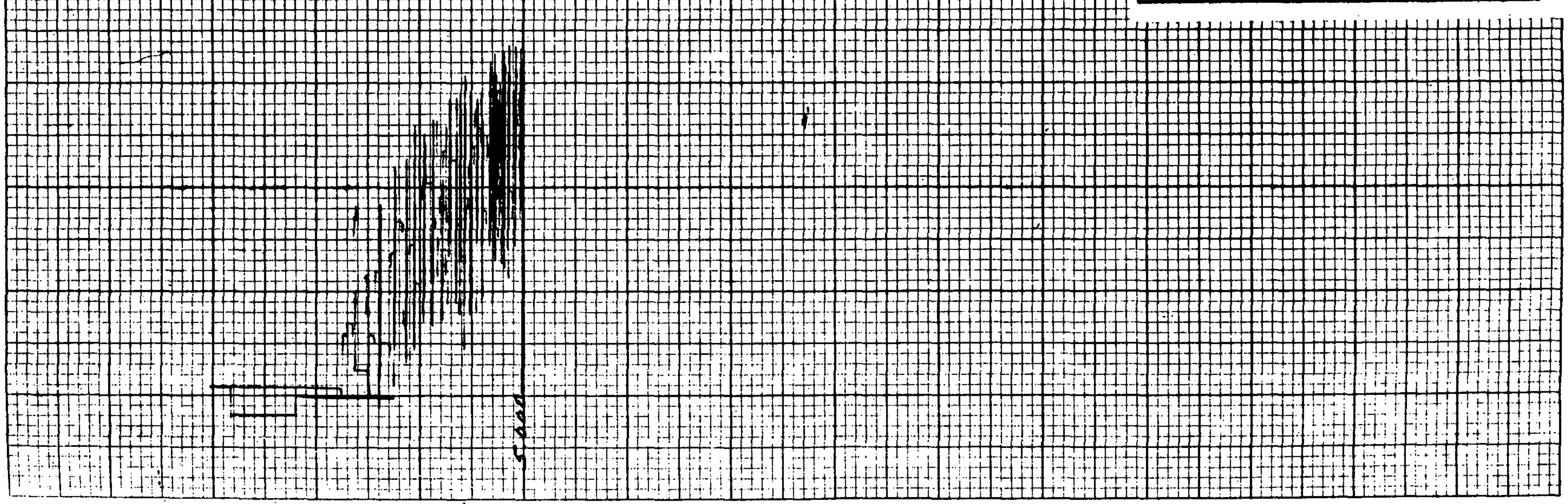
NO. XY 1101

1363



DATE: 6/3/82 | NOZZLE: #6

TEST POINT: L.V. - ; ACOUSTIC -1614

PLOT IDENTIFICATION : G - 872

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS/VOLTS) R/R_2 =

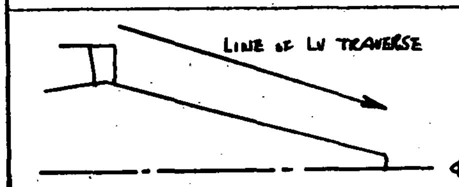
RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS/VOLTS) X/D_{eq} =

SCALE : X-AXIS= 2.22 INCH/UNIT

Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-



DATE: 6/3/82	NOZZLE: #6
TEST POINT: L.V. - ; ACOUSTIC -1614	
PLOT IDENTIFICATION : G - 873	

TRAVERSE DETAILS.

AXIAL ☒ : ℄ - ☐ ; OFFSET - ☐

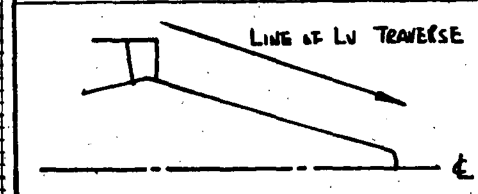
RADIAL LOCATIONS: REF.(℄)- TRAVERSE - VOLTS VOLTS) $\frac{R}{R_2}$ =

RADIAL ☐ : E.W. - ☐ ; N.S. - ☐

AXIAL LOCATIONS: REF.( )- TRAVERSE - VOLTS VOLTS) $\frac{X}{D_{eq}}$ =

SCALE : X-AXIS= 2.22 INCH/UNIT
Y-AXIS= 383 F.P.S./UNIT

HISTOGRAMS: H- TO H-



P_r= 3.215 , $V_{a/c}$= 400 f/s

T_T= 853 °R, D_{eq}= 5.03 in.

V_j= 1706 f/s, h = 1.29 in.